



Mueller Brass Co. valves and fittings are approved by the Underwriters Laboratories of Chicago.

Send for Catalog R-3 or Price List 2002 illustrating and describing our complete line of valves, fittings and accessories for mechanical refrigeration.

The Mueller Brass Co. of Port Huron, Michigan are recognized pioneers in the manufacture of first quality valves, fittings and accessories for mechanical refrigeration and today they manufacture the most complete line of these commodities that it is possible to procure. Valves and fittings for mechanical refrigeration use must be manufactured from the highest quality materials procurable for the purpose. That is why the Mueller Brass Co. use brass forgings for all valve bodies, flared tees, elbows, etc. and specially treated drawn brass rod for integral parts of valves, flared couplings, fitting caps, etc.

Valve stems are supplied from Tuf-Stuf, a non-corrosive alloy having a tensile strength of 90,000 lbs. per square inch or from steel, cadmium plated, which has a tensile strength of approximately 70,000 lbs. per square inch.

The packing used has been selected after extensive tests in our laboratory and is of a type that will not deteriorate in contact with refrigerants and oils and will not adhere to the stem after continued service. It requires very infrequent gland adjustment after dehydration and will continue to seal even after an unusual amount of operation.

All valves and fittings are machined to the standard of the Refrigeration Valves and Fittings Manufacturers Association. The openings are machined to permit a flow equal to the inside diameter of the tubing used. The threads are sharp and uniform and, in the shipment of valves, are protected by internally seated brass caps. Fitting threads are protected by heavy cardboard ferrules.

Special valves and fittings are made up to suit the customers' requirements and quotations are submitted promptly upon receipt of samples or blueprints.

#### PACKLESS VALVES

Our line of packless valves are of exceptionally sturdy construction. The mounting plate on these valves is integral with the body. The bellows used in their construction has a factor of safety much in excess of anything required in actual service, but in case of possible rupture, may be readily replaced under pressure. This line of valves incorporates the back-seating features.

#### STREAMLINE SOLDER TYPE FITTINGS

The use of STREAMLINE fittings assures permanently tight connections for mechanical refrigeration and air conditioning work. They are absolutely refrigerant and seep-proof. Vibration cannot work them loose. They form a connection actually stronger than the tubing—yet much lighter and more quickly completed. They reduce your fitting cost approximately 50%.

THE STREAMLINE FITTING IS THE ONLY SOLDER TYPE FITTING ON THE MARKET THAT FURNISHES ITS OWN VISUAL ASSURANCE OF A LEAK-PROOF, PERFECTLY BONDED JOINT WITHOUT AN ACTUAL PRESSURE TEST.

STREAMLINE FORGED BRASS FITTINGS ARE FURNISHED IN BOTH O. D. AND NOMINAL SIZES FOR MECHANICAL REFRIGERATION AND AIR CONDITIONING.

All the Mueller Brass Co. products for mechanical refrigeration are manufactured under the most strict laboratory supervision. The Mueller Brass Co. control the manufacture of these products, in every phase of their fabrication, from virgin metal to finished product.

All valves and accessories with the exception of the smaller fittings are individually sealed in protecting cartons.

## MUELLER BRASS CO.

Port Huron, Michigan

The world's largest manufacturers of valves, fittings and accessories for mechanical refrigeration



# REFRIGERATION NEWS

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## New G-E Plan Of Distribution For Michigan

**G-E Supply Corp., Caswell Combine to Handle All Appliances**

DETROIT—Announcement of a new distributing plan for General Electric appliances in Michigan, effected through the combination of General Electric Supply Corp.'s Detroit branch and Caswell, Inc., Michigan G-E distributor, was made last Wednesday at the annual "Camp Caswell" meeting at Houghton Lake, Mich.

The new organization, to be known as General Electric Supply Corp., will take over sole distribution of all General Electric merchandise in Michigan. Clyde LeMee, district manager of the Supply Corp., and Syd Caswell, president of Caswell, Inc., will be associated in the management of the distributorship's merchandising.

Assisting them will be G. W. Smith of the Supply Corp., as assistant sales manager in charge of Bridgeport appliances (washers, vacuum cleaners, irons, radios, and small appliances), and E. H. Cross of the Caswell organization, as assistant sales manager in charge of Cleveland appliances (refrigerators, ranges, water heaters, dishwashers, waste disposal units).

Both organizations will be kept intact, it was announced. No personnel changes are contemplated. The present chain of Caswell retail stores, of which there are eight in the Detroit area, will continue to operate as outlets for General Electric appliances, under the Caswell name. They will be managed by Paul L. Lewis as general retail sales manager.

Combination of the G-E Supply Corp. and Caswell organizations, it is believed, will result in better service for General Electric retailers through the state. Only General Electric appliances will be handled, the Supply Corp. dropping the line of Hotpoint refrigerators, ranges, and water heaters which it formerly distributed.

Union of the two companies, which were formerly operated on a competitive basis, will give the new distributorship a combined dealership of more than 250 firms throughout the state.

## Maryland Distributor Also Merges with G-E Supply

BALTIMORE—Merger of Maryland Appliances, Inc., General Electric distributor in this territory, with the Baltimore branch of General Electric Supply Corp. was announced last week.

Dorsey Hines, president of Maryland Appliances, has been appointed director of the entire operations of the Baltimore branch of the Supply Corp. Operations of the merged companies will be carried on under the name of General Supply Corp., although the two companies will remain in their present locations until united in one building in the future.

B. J. Dischinger, district manager of the Baltimore branch of the Supply Corp.; H. C. MacCubbin, merchandise manager of the branch, and C. E. Weitzel, sales manager of Maryland Appliances, Inc., will remain in executive positions with the new organization.

The G-E Supply Corp. will no longer act as distributor for the Hotpoint line, which it has carried to date. Appointment of a new Hotpoint distributor is expected to be made soon.

## Krich-Radisco Moves to Larger Quarters

NEWARK — Krich-Radisco, Inc., Kelvinator distributor in this territory, has moved into new and larger headquarters at 422-432 Elizabeth Ave. here. The company is holding open house from 10 a.m. to 10 p.m. on Thursday and Friday, Sept. 10 and 11 for dealers and friends.

## 'Air Conditioning Made Easy' Series To Begin Soon in the News

"Air Conditioning Made Easy," a manual and textbook on air-conditioning engineering practice, written by F. O. Jordan, will appear soon in serial form in AIR CONDITIONING AND REFRIGERATION NEWS.

Mr. Jordan is an experienced air-conditioning engineer now with Airtemp, Inc., of Dayton, Ohio. He was formerly connected with the air-conditioning engineering department of Kelvinator Corp. in Detroit. The information he has compiled has been used in both factory design and field engineering work, and also as textbook material for classes of field engineers, dealers, and salesmen.

The NEWS has been publishing technical and semi-technical articles on air-conditioning engineering practice for a number of years. Letters from readers, however, have revealed a desire for a "how to do it" series of instructive articles for the practical man, similar to those written by K. M. Newcum, author of the MASTER SERVICE MANUAL.

Mr. Jordan has divided his manual into a number of sections,

and the titles to the various sections provide a key to the kind of information which "Air Conditioning Made Easy" will offer:

- "Definitions and Simple Thermodynamics."
- "Coil Performance."
- "Water Cooler Performance."
- "Condensing Unit Performance."
- "Air Movement and Ventilation Requirements."
- "The Complete Air Conditioning System for the Cooling Season."
- "Heating."
- "Installation Hints."
- "Company Organization."
- "Controls and Zoning."
- "Design of Equipment."
- "Test Data."
- "Field Engineering."
- "The Domestic Load and Estimates."
- "The Commercial Load and Estimates."
- "Design of the Distribution System."
- "Tabulation of Data."
- "Methods of Selecting Equipment—Simple Specifications."

## Alabama Power Co. Puts Conditioning System In Own Office

MOBILE, Ala. — Installation of a year-round air-conditioning system has just been completed in the offices of Alabama Power Co. here. Summer cooling equipment, furnished by Carrier-Brunswick, includes two Weather-makers, two compressors driven by 10-hp. motors, and an evaporative condenser.

Equipment conditioning the first floor of the building is located in a specially constructed room located just outside the rear of the office. Equipped with filters and spray type air washer for cleaning, purifying, and dehumidifying the air, the first floor system is designed to handle 5,000 cfm. of conditioned air distributed through a duct system located near the ceiling.

The second-floor conditioning system is identical with that of the first floor, except that it is designed to handle 8,000 cfm. of conditioned air. The duct for air distribution on this floor is equipped with several dampers, controlled by damper motors and thermostats, and manufactured by Minneapolis-Honeywell Regulator Co.

In operation, the control system is designed to regulate indoor conditions automatically in ratio with variations in outdoor temperatures. Schedule to be maintained ranges from 105° F. outdoor dry bulb with 87.5° F. indoor dry bulb, to 75° F. outdoor with 73° F. indoor dry bulb.

The temperature schedule is regulated by the action of the various thermostats in the duct system, as well as by a by-pass damper on the conditioners. Thermostats are equipped with summer and winter switches for control during the heating cycle. By throwing the switch to the winter position, function of the thermostats is reversed.

## Ralph Kortepeter Will Manage Apex Sales

CLEVELAND — Appointment of Ralph Kortepeter as manager of national refrigerator sales was announced last week by officials of Apex Electrical Mfg. Co.

Mr. Kortepeter, now sales manager of Apex's Oakland, Calif., district, will assume his new duties some time this month, working under General Sales Manager Charles W. Smith. He succeeds W. M. DeWitt, who has been in sole charge of refrigerator sales.

## Air Conditioning Is Being Used in Place Of Baby Incubators

CAMBRIDGE, Mass.—Air conditioning, supplanting incubators in the care of premature babies, was credited with a 26% saving in lives, in a report by Prof. C. P. Yaglou of the Harvard School of Public Health before the Harvard Tercentenary.

The incubator, formerly used in premature baby treatment, did one thing, Mr. Yaglou reported—it gave a warm, uniform temperature. Air conditioning, he added, does three things—regulates humidity, temperature, and air drafts.

The big life-saving appeared with relative humidities from 50 to 75%, the report stated. These humidities provided air so moist and sticky that doctors and nurses complained about discomfort when working in the premature-baby nurseries.

Confining his report on air conditioning to its use in hospitals, Mr. Yaglou's report mentioned as another one of its uses that of reducing the risk of explosions in operating rooms.

Anesthetics, on rare occasions, explode due to sparks from static electricity forming on the outer surfaces of rubber tubes which pipe the anesthetic to the patient's mask. Humidity, Mr. Yaglou said, collects moisture on the tubes, helping to conduct away the electricity before it reaches the sparking potential.

Another surgical use, he said, is in air-conditioned rooms for patients immediately after operations during heat waves.

Heat sometimes causes post-operative shock, which may be fatal.

Air conditioning also offers physicians a new method of inducing the artificial fevers now coming into frequent use, Mr. Yaglou stated.

## Copeland Appoints 5 New Distributors On Commercial

DETROIT — Appointment of five new distributors for Copeland commercial refrigeration units was announced recently by W. G. von Meyer, Copeland's sales manager.

New distributors include: Eger Engineering & Mfg. Co., Holyoke, Mass.; Fargo Food & Equipment Co., Fargo, N. D.; Rumsey Electric Co., Philadelphia; Lawton Huffman Co., Marshalls Creek, Pa.; Cream Top Dairy Co., Goldsboro, N. C.

## 88 St. Louis Homes Conditioned in July To Set New Mark

ST. LOUIS—Residential air conditioning hit an all-time peak here during July. The 88 installations in St. Louis homes during the month exceeded by a large margin the number reported in that classification for any single month up to this time.

Total installations for the month in all classes was 146, bringing the mark for the first seven months of the year to 324. Of this number, 230 were in the "personal comfort" class, including 149 residential jobs, 77 private office installations, and four office buildings.

Private office conditioners installed during July alone totaled 41, giving the "personal comfort" class a total of 129 for the month. Commercial installations totaled 16, including nine retail stores, three restaurants, two hospitals, a club, and a sales and display room. A single industrial installation was also reported.

Figures on residential installations up to Aug. 1 showed a total of 345 conditioners in use. The 149 home jobs installed so far this year is an increase of 76% over the 196 home systems in use before Jan. 1.

## Philadelphia Show to Include Display Of 18 Makes

PHILADELPHIA—Thirteen makes of electric refrigerators will be shown at Philadelphia's Ninth Annual Electric and Radio Show to be held in the Municipal Auditorium here Oct. 5-10.

All available space for the exhibits has already been sold, reports George R. Conover, managing director of the Electrical Association of Philadelphia. He expects this year's attendance to surpass that of last year, when 121,000 people visited the exposition.

Refrigerators to be shown include: Coldspot, Copeland, Crosley, Frigidaire, General Electric, Grunow, Hotpoint, Kelvinator, Norge, Sparton, Stewart-Warner, Universal, and Westinghouse.

Daily radio programs will be broadcast by the Electric and Radio Show orchestra, and well-known artists and entertainers will be featured on the programs. In addition, the show will include a number of electrical devices that have showmanship appeal.

## Leaders in Kelvinator Selling Leave Sept. 21 On Havana Cruise

DETROIT—Six hundred Kelvinator star salesmen, executives, and invited guests will sail from New York City Sept. 21 for Havana, aboard the chartered White Star-Cunarder *Frankonia*. More than half of the party—326—are winners in Kelvinator's "Keep the Ball Rolling" contest, which closed recently.

Highlight of the trip will be the luncheon to be given in Havana by George W. Mason, Kelvinator's president and board chairman, at which a group of Cuban officials and business leaders will be guests.

Among those who will attend are: Dr. Jose Manuel Cortina, secretary of state; Dr. Rafael Santos Jimenez, postmaster general; Dr. Antonio Beruff Mendieta, mayor of Havana; Jefferson Caffery, United States ambassador; Walter Donnelly, U. S. commercial attaché; G. R. Cameron, U. S. consul general.

Senors Miguel Santiago Valencia and Juan Sabates of the Cuban Tourist Commission, and Senor M. R. Arellano of Arellano Co., Kelvinator distributor for Cuba, will also be present.

With Mr. Mason at the luncheon will be Kelvinator's vice president in charge of sales, H. W. Burritt; manager of advertising and sales promotion, Sam Mitchell; Public Relations Counsel E. L. Bernays, and Public Relations Director Elmer L. Sylvester. Thomas Beck, *Collier's* publisher, will also be present.

## 54 Makers of Parts Members Of Association

**Many Members Planning Exhibits at Convention In Memphis Nov. 10**

DETROIT—There are now 54 manufacturers who are members of the Refrigeration Supplies and Parts Manufacturers' Association, reports Frank J. Gleason, secretary of the association.

Board of directors of the Parts Manufacturers' Association will meet in Detroit next Tuesday at 9 a. m. in the Statler hotel. Among the matters up for discussion at this meeting are the Robinson-Patman anti-discrimination law; functions of the various group classification committees within the association; trade policies; and final plans for the annual convention to be held Nov. 10 in Memphis. Any member of the association may attend the meeting of the board of directors.

According to Mr. Gleason, most of the members of the association have made plans to exhibit their products at the convention. No decision has been reached as to where the parts manufacturers will meet.

The following is the present membership roster of the Refrigeration Supplies and Parts Manufacturers Association:

Acme Industries, Inc.; Alco Valve Co.; American Injector Co.; Ansul Chemical Co.; Automatic Products Co.; Ranco, Inc.; Bohn Aluminum & Brass Corp.; Bonney Forge & Tool Works.

Bridgeport Brass Co.; Bush Mfg. Co.; Calco Chemical Co.; Carroll Glass Instrument Co.; Chicago-Wilcox Mfg. Co.; Cutler-Hammer, Inc.; Dayton Rubber Mfg. Co.; Detroit Lubricator Co.

Dole Valve Co.; E. I. du Pont de Nemours & Co., Inc.; E. Edelmann & Co.; Electricmatic Corp.; Fedders Mfg. Co.; Fredericksen Co.; Fulton Syphon Co.; L. H. Gilmer Co.; Henry Valve Co.; Hinsdale Mfg. Co.

Imperial Brass Co.; Jarrold Products Corp.; Kellogg Compressor & Mfg. Co.; Kerotest Mfg. Co.; Larkin Refrigerating Corp.; Jas. P. Marsh Corp.; Maurey Mfg. Co.; Mayson Mfg. Co.; McCord Radiator & Mfg. Co.

McIntire Connector Co.; McQuay, Inc.; Miller Rubber Co.; Mills Novelty Co.; Mueller Brass Co.; Peerless Ice Machine Co.; Penn Electric Switch Co.; Perfection Refrigeration Parts Co.; Rotary Seal Co.; Sealed Power Corp.

Square D Co.; Superior Carbon Products, Inc.; Tagliabue Mfg. Co.; Tecumseh Products Co.; Temprite Products Corp.; Victor Mfg. & Gasket Co.; Virginia Smelting Co.; Wolverine Tube Co.; Spoehrer-Lange Co.

## American Radiator to Build Factory In Buffalo

BUFFALO—To meet the demand for its recently introduced home air-conditioning units, American Radiator Co. will open a new \$1,000,000 factory in Buffalo, it was announced last week by Arthur B. Herske, vice president and general sales manager.

Mr. Herske and Richard Locke, vice president and manager of manufacturing operations, were here for the annual sales conference, attended by 22 district managers from all parts of the country.

The new plant, in which the radiators for American Radiator's home conditioning systems will be manufactured, will be known as the Clarence Woolley plant, Mr. Herske said.

## Airtemp Names Gene Kelly Field Supervisor

CHICAGO—Appointment of Gene Kelly as field supervisor for Airtemp Sales Corp., distributor of Chrysler-designed air-conditioning products in this territory, was announced last week by F. C. Wood, regional manager.

# AIR-CONDITIONING SURVEY OF 47 CITIES IN THIS ISSUE



## Famous Barr Co. Revamps Appliance Merchandising Methods Around Westinghouse 'Kitchen Clinic'

ST. LOUIS—Famous-Barr Co., St. Louis department store, last month opened an elaborate Westinghouse-equipped "Kitchen Clinic."

Having merchandised electrical appliances for several years, the department store organization decided the time had come to increase profits and build store traffic by a merchandising promotion that would be sound in practice, but more comprehensive than any tried before.

The appliance department management feels that with this move they are capitalizing the recently revived interest the average housewife has taken in her home, especially in her kitchen.

### Located on Seventh Floor

The kitchen is located on the seventh floor of the Famous-Barr store, which is also the location of allied house and kitchen furnishing merchandise such as paints, varnishes, linoleum, cabinets, electric appliances, oilcloth, etc.

At the extreme end of the floor, in a center location, Famous-Barr Co. has strategically placed the opening to the Westinghouse-equipped kitchen so that its electrical signs can be seen from practically every angle on the floor.

The entrance to the kitchen has a modern treatment and a suggestion of the interior is received from the liberal use of color, glass, chromium trims and lighting arrangements on the outside approach.

Kitchen itself is a room approximately 25x40 feet. From the entrance,

to the left, the actual kitchen display consists of standard equipment, an electric range, dishwasher and refrigerator, with additional table appliances. These pieces of equipment have been placed in logical order and sequence so the "work flow" will follow the same course as it would on a well organized modern, efficient production line of a factory. The necessary cabinets have been supplemented with display wells and windows so that small electrical appliances, utensils and dishes may be shown to a good advantage.

Base cabinets have been designed to give an unbroken work surface at the accepted height of 36 inches, extending from one end of the display to the refrigerator at the other end. However, some compensations have been made for demonstration work and in place of regulation base cabinets with doors, display openings have been substituted.

### Display Is Basic Factor

While there have been radical departures from accepted and approved kitchen planning maxims and theories, the element of display has been the regulating factor in the overall picture. The entire treatment of design, color, and physical location of equipment has been made with the idea of making an impression. The complete kitchen has been planned as a vehicle to carry to the housewife not only the story of equipment and arrangement, but also of color and the possibilities of the expression of individuality in her own kitchen.

To gain this end, it has been necessary to sacrifice some elements of accepted kitchen designing.

At the extreme end of the room facing the display kitchen is a huge wall mural, depicting the progress of cooking in three different stages of civilization. The first treatment is that of the early cave dweller, where a fire and only the crudest of working vessels were available. The next treatment is that of the Old Dutch kitchen where good cookery received its greatest impetus, while the third panel shows the modern method of preparing a meal in a complete electric kitchen. This mural is done in full color on canvas and is about twenty feet long, covering the entire exposed width of the kitchen.

### Clever Kitchen Bar

A great deal of significance is attached to the fact and acceptance of the new order of entertainment in the average home. To compensate for this entertaining factor, a small bar has been installed in the kitchen, since the center of entertaining is rapidly shifting from the living room to the kitchen in the average American home.

This bar has a clever light treatment and is complete in every sense of the word, being equipped with a counter surface and an adequate supply of shelf space.

### Display of Equipment

On the side opposite from and facing the entrance is display space with inset covers for small pieces of equipment. This display space has been placed on a four-inch elevation so the equipment will be above the floor level for better visibility. On each side of the entrance shadow-box cones have been located so that displays of equipment will be visible from within the kitchen or from the exterior on the sales floor.

Other features in the kitchen are a disappearing planning desk composed of writing surface, a French type telephone and a built-in radio. When the desk is not in use it folds into the wall and conserves space. A glass case also has been installed at one end of the display kitchen so that displays can be changed frequently, according to the topic of the demonstration.

The color treatment deserves interesting comment as it is vivid, modern, and thoroughly effective. The color scheme has been based on various shades of green, blue, peach, and yellow with dashes of red for trimming. In addition to these colors, a liberal use of chrome has been employed, making an overall impression of a rainbow.

However, this color effect has been done with a definite purpose in mind, that of showing the possibility of expressing individuality in the kitchen by the introduction of color. White Westinghouse ranges, dishwashers and refrigerators have been selected as neutral color agents to harmonize with the general effect.

All of the lighting is indirect, not only to avoid glare, but to give adequate and favorable lighting for the color and display effects.

Not only will demonstrations be conducted in this Kitchen, but it will serve as a clinic for menus, kitchen planning, operation of kitchen equipment—in fact, as a clearing house for problems of the housewives of St. Louis and vicinity.

## 80% of Dealer's Sales Are Made for Cash

LARNED, Kan.—Since taking on the Leonard line of electric refrigerators in April, Hal Heaton, appliance dealer here, has had 80% of his refrigeration sales on a cash basis, and the other 20% on contract.

Located in the wheat country, Mr. Heaton has an opportunity of stressing payments, and finds that the prospect thinks more highly of the dealer if he pays cash and can truthfully say "My refrigerator," than if he pays on a dollar-down plan.

The cash customer, Mr. Heaton says, becomes a prospect for a second major appliance, and purchases more promptly than the budget buyer.

Mr. Heaton recently added Easy washing machines to his line.

## Cookery Demonstrations Attract 7,200 in Columbus, Ohio

COLUMBUS—Because it brought 7,200 persons to cookery demonstrations in which electrical appliances were centers of attraction, the series of lectures given by the Westgate Electric Co. is to be made a regular part of the company's promotional program.

Housewives were invited by mail and by large newspaper advertisements. The lectures, given by well-known home economists, were held in the Columbus high school auditorium, rented for the occasion.

Westgate Electric Co. got new prospect names through their ticket system. Numbered and perforated in the middle, the tickets were handed out to those present. One half of the ticket gave the bearer admission, and the other half, filled out with the prospect's name and address and deposited in a box, gave him a chance on one of the prizes of electric houseware appliances given away each evening at the store.

## Italian Manufacturer Visits Norge Plant

DETROIT—Dr. Carlos Radaelli, of the firm of R. Radaelli, manufacturer of electric refrigerators in Milan, Italy, visited the Detroit offices of the Norge Corp. and plant here Monday. Dr. Radaelli is touring the United States with a party of Italian tourists. From Detroit he went to New York City where he will remain for about two weeks before returning to Italy.

Sales of refrigerators in Italy are showing steady increases, says Dr. Radaelli. About 600 persons are now employed by the Milan company, he says. Distribution of the refrigerators is confined to Italy and its colonies.

Dr. Radaelli expressed himself as being greatly impressed with the manufacturing methods employed in this country and says that Italian manufacturers are trying to inaugurate some of the U. S. methods in their plant operations.

## Deubell Will Represent Leonard Distributor

BALTIMORE—R. P. Deubell, formerly general manager of Eisenbrandt, Inc., Majestic refrigeration and radio distributor, is now representing the R. W. Norris & Co., Leonard refrigerator and Stewart-Warner radio distributor, in the western Maryland territory.

## Activities of 492 Home Economists Directed From Kelvin Kitchen

DETROIT—A representative picture of how a manufacturer's home service department works as a vital force in electric refrigeration sales promotion, is reflected in a summarization of the many-phased schedule of activities which originate in Kelvin Kitchen, home service center of Kelvinator Corp., located at the factory on Plymouth Road here.

Headed by Miss Eva McPherson, director, a staff of seven home economists, college trained and with backgrounds of practical experience, form the nucleus of a home service department whose field organization includes a group of 492 home economists employed by power companies, distributors, and dealers throughout the country.

Training this field organization and supervising its activities is one of the major functions of the Kelvin Kitchen staff. This is done through personal contact, and through home service literature issued from the Kitchen.

### Relay Sales Suggestions

"Sell-O-Gram," the department's monthly bulletin, supplies a medium for relaying sales suggestions, and for exchanging the ideas, activities, and experiences of field workers. In addition to this, a weekly column of recipes and advice, titled "From the Kelvin Kitchen," is prepared by Joan Dean of Kelvin Kitchen staff and sent to home economists in the field organization for use in their local papers.

Originally established to provide distributors and dealers with the answers to Home Service problems as they related to refrigeration sales, the scope of Kelvin Kitchen's activities has been enlarged to cover a variety of services.

Foremost among them are the cooking schools which the home economists conduct in conjunction with local newspapers during the summer months. Held in dealers' showrooms, theaters, or lodges, the preparation of recipes and menus are interest-features in these refrigeration demonstrations.

### Kitchen Modernizing School

Tying in with the Edison Institute program, and designed as a service to dealers, a Kitchen Modernizing School also is part of the Kitchen program. Compact simplicity and utility are basic principles followed in arranging kitchen interiors. To provide concrete examples of modern kitchen design, the home service workers use a kit containing blocks and miniature kitchen furniture.

Three types of demonstrations are major items in Kelvinator home economists' regular work. First of these is demonstrations in stores or store windows, held in conjunction with spring line showings. This activity is supplemented with demonstrations in food stores, in which the home economist assists the merchant in planning an attractive display that will sell types of merchandise suggested by the refrigerator demonstration.

### Demonstration in Users' Home

Third type of demonstration is that held in the user's home. Devised to provide new refrigerator owners with instructions on the care and operation of the appliance, this activity results in a saving of service calls. Held as adjuncts to bridge parties or luncheons, the home demonstrations often lead to new sales to the user's guests. Refreshments or luncheons are prepared by the home service workers.

Home economists employed by utilities also put on shows to demonstrate other electrical appliances of all types.

Instructing local salesmen in demonstrating methods, and providing them with the woman's viewpoint, is a further duty of the Kelvin economist. This is accomplished through training courses held at regular intervals throughout the year. The demonstrator discusses domestic kitchen problems and health promoting aspects of proper food preservation.

In Kelvin Kitchen new recipes are tested, menus prepared, and experiments with cooking temperatures and their effects on food preservation conducted. Fronting a lecture auditorium, the experimental kitchen occupies a slightly raised stage whose decorative scheme is blue and silver.

On either side of the Kelvinator range centering the stage, a Monel metal sink and a modernistic planning desk are placed. The ensemble is of cream and green furnishings against peach, with metal accents.

## Lightning Electric Co. Will Move Offices

NEWARK—The Lightning Electric Co., refrigeration and air-conditioning equipment dealer located at 481 Broad St. for the last 15 years, will move early next month to larger quarters at 917 Broad St. Floor space will be 22 ft. wide by 400 ft. deep.

# Delco motors

Delco recognizes the responsibility that goes with leadership. That is why Delco manufacturing methods are constantly being improved . . . why Delco motors are continually tested and re-tested to disclose the slightest possibility of failure in any part . . . why Delco engineers are always striving to find better ways to make Delco motors even more dependable and quiet in operation. Only in this way does Delco expect to retain its position as one of the world's largest builders of fractional horsepower motors—and to uphold its present reputation among household appliance builders, dealers and users.

DELCO PRODUCTS CORPORATION, DAYTON, OHIO

In Canada: McKinnon Industries, Ltd., St. Catharines, Ont.





## Proximity to New York's Cut Price Market Makes Sales Difficult For Long Island Dealers

By Ross H. Potter

NEW YORK CITY—Excessive local price cutting and the competition of metropolitan department stores in electric refrigeration make Long Island a tough market for the independent dealers, several of them declared when interviewed recently. The solution to present conditions, they feel, will come from the inside out—in a better understanding and cooperation between dealer and manufacturer, and among the dealers themselves.

### 'Too Close to New York' Says Kelvinator Dealer

"Great Neck has all the makings for a good refrigeration market," said William C. Kelly, Kelvinator dealer at 111 Middle Neck Rd. "Upper middle class people, 18,000 population—you can get to know them personally in a town this size—and near enough to New York City to be up on modern home conveniences."

What's wrong, then, we asked. "We're too near, that's the trouble," he shook his head in reply. "A round trip to the City is about 70 cents by train. Long Island housewives can go in one afternoon, look around the big department stores, get a refrigerator for 35% off and have it sent out—all for less than we can afford to sell."

Local advertising doesn't promote much in the way of sales ammunition, Mr. Kelly declared. There are three local newspapers, two weeklies and one daily. "Their combined circulation is not enough to reach the market we want," Mr. Kelly explained. "Everybody out here buys a New York Sunday edition, and what just one of those can do puts the local issue right back in the shade. And as far as we're concerned, metropolitan rates would be too steep for us any day in the week."

Mr. Kelly handles all the selling for his dealership. His best leads come through his service department, he has found.

"There are all kinds of service openings, for all makes. But it wouldn't pay to train my crew to handle any other of the bigger boxes—Westinghouse, Norge, Frigidaire all have their own service departments. And there are more than enough Kelvinators around to keep me busy. The town's 80% saturated as is, and some of the boxes have been in for 10 years. Servicing brings almost the best part of our business."

How about price cutting, we queried.

"Awful!" was the answer. "There's one firm in town that will sell a box at cost every time. I'm not exaggerating," he nodded seriously. "—they'll sell without a cent profit if they can make a sale and break the ice. I can see where they might think they have to, with business as it is, but if everybody did that we'd all starve in spite of sales."

A steady number of boxes keeps turning back in for larger models, the manager has found.

"A refrigerator looks pretty big compared with the old ice box; people take a 5-cu. ft. size to be more than they've ever needed. And probably it is. But once a housewife has a box that will keep cold no matter how much goes in, then everything begins to go in—fruit, eggs, vegetables, jellies—things that never went in before. If the box is there, why not use it? And so customers have come back, plenty of times, to get a 7-cu. ft. model."

Summer sales have been slow, Mr. Kelly reported; June, July and August were about even. Fall outlook is better, he believes. And in his estimation the all-electric kitchen is a swing in the right direction; he is adding an electric range and oil burner complement to his floor display this month.

### Telephone Canvass Gives Westinghouse Salesmen Leads

A Westinghouse model kitchen spanned a half-circle across the floor of the Universal Equipment Co. at 9 Middle Neck road. The all-electric equipment idea is going to be a good thing for refrigeration and for the whole electrical appliance field, in opinion of J. D. Conway, manager of the Westinghouse dealership.

"Going to be" because the idea is still too young to have come into its own, he thought. But electrical appliances should naturally go together. "Both of my salesmen sold ranges and specialties before they sold refrigerators. They're ready to handle any combination opening that comes up."

Telephone leads tracked down by Mr. Conway follow through to the majority of sales made by the dealer-

ship. Cold canvassing is not allowed in the zone circling Great Neck and six neighboring towns.

"We have a free field there, and believe me, we appreciate it," the dealer added, "even though our best bet has been direct contacts by telephone. Telephoning saves a lot of time for salesman and for the housewife—and a lot of patience."

Universal Equipment also keeps in touch with the contractors and builders in the territory it serves. New homes are being built all the time. And the turnover of used boxes is steady.

"The market for seconds fades pretty well after July 1," Mr. Conway observed, "but until that time, from the beginning of April, it's strong. A lot of people who come out for the summer want refrigeration. But they want it inexpensively; a used box with an Okay just about fills the bill. And—sometimes they buy a new one before they go."

"The average prospect coming in hasn't her mind set on any one thing," he continued. "She just wants to look around. Price of course seems more important at the start. But after we get talking it over other things come out—economy and durability. Those are usually the deciding arguments. And so they often end up buying a new box, because in a new box those are the two points they can be sure of."

### Utility Cooperation Makes Sales for H. H. Clark

H. H. Clark, who handles Frigidaire and Electrolux for the Long Island Lighting Co. at 46 Middle Neck road, finds little time for cold canvassing. His territory covers Great Neck and a part of Little Neck, as well as Manhasset, Plandome, and Port Washington.

Working along with the utility leads to a more direct introduction to prospects, Mr. Clark explained.

"Newcomers to Great Neck naturally contact the lighting company before they've changed their location, to arrange for service here. As soon as we have their name and address I can drop over and see them, and ask if there's anything in the way of electric appliances they're going to be needing. I see them again when they come here in person to open their account."

Does Electrolux sell out on Long Island, we asked.

"The gas rate is rather high," Mr. Clark admitted, "and with an even break people will buy an electric box. But there are still plenty of the older homes that aren't wired; and people using gas for cooking get used to the idea and carry it over to their refrigerator. I will say this—that once we sell one it stays, even though electricity comes into the house later. It's all a matter of habit."

"Why, just to show you how backwards some parts of Long Island still are," he smiled, "about a month ago I got in touch with a man living near Port Washington who had never used ice or electric refrigeration at all. He had been brought up using the water cistern to keep milk and butter cool, and still used it—and he was over 70 years old. It wasn't that he couldn't afford it; it was just habit. When I did convince him that there was a better way, he bought an 8-cu. ft. box, and he paid spot cash."

Business is usually slow through the Long Island summer, Mr. Clark agreed with the other dealers. To offset the letdown he goes through a survey of ice box users in his territory, sends out sales literature by direct mail, and follows each one up with a personal call. The sales that result are never many but they are consistent, he reports.

Frigidaire sponsors from four to five home economics demonstrations every spring throughout that section. Then the county fairs, later on, are good ground for prospect getting.

"The Meter-Miser? Oh, a certain small percentage come in and ask about it—not many. It's a good advertising point, though."

Mr. Clark recalled the inside light which Frigidaire was first to introduce about four years ago.

"Those smaller conveniences make good publicity material. But when it comes to selling a \$200 appliance they haven't the pull. The best advertising that ever resulted from a gadget came about when the New Yorker wrote up a spot feature about the woman who couldn't be convinced that the light really went off when the refrigerator door closed. Remember? Finally she had her little boy climb in, the salesman closed the door and opened it again. 'It's all right, Ma; she goes out.'"

Best leads come from Frigidaire

users, Mr. Clark declared.

"We don't really deserve credit for the sales that come through the utility," he said. "But when one woman tells four friends and they each buy a Frigidaire—and that happened just last month—it's the box that's selling itself on its own merits."

Service is handled by a Frigidaire service station in Mineola, nearby.

"We used to do all our own servicing," Mr. Clark commented. "Then the factory took it over. Later they receded again. Now we have to call Mineola when we need them."

Price cutting is a constant issue in his territory, Mr. Clark agreed.

"For one thing, along with the other

dealers we have an agreement with builders and contractors here to sell them refrigerators at a certain discount to install in new homes. Sometimes the prospective homeowner thinks she can get a refrigerator for less someplace else. When she comes into the other dealers' stores they're bound ethically not to quote her a discount lower than the builder's price, even though it's not one of their refrigerators and they stand to lose a sale. But some dealers refuse to cooperate—with a sale staring them in the face.

"You can't enforce our original agreement, of course. The manufacturer could give the builder and

dealer the protection they would enjoy under a non-price-cutting franchise.

"The manufacturers don't seem to want to do anything about price cutting—in spite of letters from dealers all around. I know of plenty of complaints from these parts especially," he affirmed. "The manufacturer doesn't see it as we do—that if a dealer could be restricted to one district territory, and be sure that nobody else would come treading in on his toes, he'd do a more thorough job of that territory. He'd build up good will within the organization, and have a much better chance of building it outside the organization with the people who buy."

### The ECONOMY of QUALITY

## in KEROTEST REFRIGERATION VALVES AND FITTINGS

**Kerotest Compressor Valves** for large capacity compressors using  $\frac{1}{4}$ " to  $2\frac{1}{2}$ " O.D. Copper Tubing.

**Kerotest Cadmium Plated Forged Steel Manifolds** for large commercial refrigeration and air conditioning installations fitted with Diaphragm Packless Valves and equipped with handwheels assuring quick, positive shutoff.

**Kerotest Forged Brass Heavy Duty Two Way Diaphragm Packless Valves** available in  $\frac{1}{4}$ " and  $1\frac{1}{2}$ " pipe sizes.

**Kerotest Diaphragm Packless Globe Valves** are standard equipment in the plants of the largest manufacturers of electric refrigerators and producers of refrigerants— $\frac{1}{4}$ " to  $1\frac{1}{2}$ " pipe sizes.

**Kerotest Forged Brass Liquid Line Strainers**—inexpensive and dependable.

For the economic regulation of any refrigeration system, the Kerotest GW Control is renowned throughout the industry.

Throughout the world of commerce, the economy of quality is time-tried and time-proved from ships to sealing wax. And nowhere is the truth of this principle more ideally applicable than in the manufacture of Kerotest Refrigerator Valves and Fittings.

All Kerotest products from the smallest fitting to the largest valve are designed and built NOT on the basis of mere price alone but in terms of ultimate service and absolute dependability.

Result—a nationwide demand for genuine Kerotest Valves and Fittings and the confidence of foresighted refrigeration engineers and executives throughout the industry.

For quick service and a dependable source of supply, call your local Kerotest representative or jobber as listed below—learn the advantages of Kerotest cooperation in the field as well as at the plant.

## KEROTEST MANUFACTURING CO.

PITTSBURGH, PA.



### Jobbers with Local Stocks

Albany, N. Y. .... Hoy & Co.  
 Allentown, Pa. .... General Refrigeration Supply Co.  
 Atlanta, Ga. .... J. M. Tull Metal & Supply Co., Inc.  
 Baltimore, Md. .... Clendenin Bros., Inc.  
 Baltimore, Md. .... Melchior, Armstrong, Dessau Co.  
 Birmingham, N. Y. .... Service Supply Co.  
 Boston, Mass. .... A. E. Borden Co.  
 Bridgeport, Conn. .... Parsons Bros.  
 Brooklyn, N. Y. .... Coleman Electrical Supply Co., Inc.  
 Brooklyn, N. Y. .... Melchior, Armstrong, Dessau Co.  
 Buffalo, N. Y. .... Root, Neal & Co.  
 Cambridge, Mass. .... Melchior, Armstrong, Dessau Co.  
 Chicago, Ill. .... H. W. Blythe Co.  
 Chicago, Ill. .... Max A. R. Matthews  
 Chicago, Ill. .... Borg-Warner Service Parts Co.  
 Chicago, Ill. .... Refrigeration Equip. & Supply Co.  
 Chicago, Ill. .... Fred C. Kraemer  
 Cincinnati, Ohio .... The Merkel Bros. Co.  
 Cincinnati, Ohio .... Williams & Co., Inc.  
 Cleveland, Ohio .... Williams & Co., Inc.  
 Columbus, Ohio .... The Justus & Parker Co.  
 Dallas, Texas .... The Electromotive Co.  
 Davenport, Iowa .... The Republic Electric Co.  
 Denver, Colo. .... J. M. Percival Co.  
 Des Moines, Iowa .... C. L. Ober, Inc.  
 Detroit, Mich. .... Zork Hardware Co.  
 El Paso, Texas .... Fargo Foundry Co.  
 Fort Wayne, Ind. .... H. J. Schroeder Co.  
 Ft. Worth, Texas .... McKimley Refrigeration Supply Co.  
 Greenboro, N. C. .... Home Appliance Service Co.  
 Harrisburg, Pa. .... Melchior, Armstrong, Dessau Co.  
 Hempstead, Long Island, N. Y. .... Home Oil Burner Corp.

Honolulu, T. H. .... Theo. H. Davies & Co., Ltd.  
 Houston, Texas .... D. C. Lingo Co.  
 Houston, Texas .... Walter Refrigeration Supply Co.  
 Indianapolis, Ind. .... F. H. Langenkamp Co.  
 Kansas City, Mo. .... Forslund Pump & Machinery Co.  
 La Crosse, Wis. .... W. A. Roosevelt Co.  
 Long Beach, Calif. .... L. B. Marsh  
 Los Angeles, Calif. .... Refrigeration Service, Inc.  
 Macon, Ga. .... Lowe Electric Co.  
 Memphis, Tenn. .... United Refrigerator Supply Co.  
 Milwaukee, Wis. .... Chase Brass & Copper Co., Inc.  
 Minneapolis, Minn. .... Chase Brass & Copper Co., Inc.  
 Minneapolis, Minn. .... Refrigeration & Industrial Supply Co., Inc.  
 Montreal, Quebec, Canada .... Railway & Engineering Specialties, Ltd.  
 Newark, N. J. .... T. W. Binder Co.  
 Newark, N. J. .... McIntire Connector Co.  
 New Orleans, La. .... Enoch Sales Co.  
 New Orleans, La. .... The Spangler Co.  
 New York, N. Y. .... Aetna Supply Co.  
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 New York, N. Y. .... Paramount Electrical Supply Co.  
 Oakland, Calif. .... Pacific Tool & Supply Co.  
 Oklahoma City, Okla. .... Mideke Supply Co.  
 Omaha, Nebraska .... United Supply Co.

Peoria, Ill. .... Isaac Walker Hardware Co.  
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 Philadelphia, Pa. .... Melchior, Armstrong, Dessau Co., Inc.  
 Portland, Ore. .... Refrigerative Supply Dist. Providence, R. I.  
 Rhode Island Supply & Engineering Co.  
 Rochester, N. Y. .... Ontario Metal Supply, Inc.  
 Rochester, N. Y. .... Melchior, Armstrong, Dessau Co., Inc.  
 St. Joseph, Mo. .... Bristol Supply Co.  
 St. Louis, Mo. .... The Spangler Co.  
 Salt Lake City, Utah .... Peerless Utah Co.  
 San Antonio, Tex. .... Straus-Frank Co.  
 San Francisco, Calif. .... California Refrigerator Co.  
 Sacramento, Calif. .... J. N. Blair Co.  
 San Juan, Puerto Rico .... Refrigeration Supply Co.  
 Seattle, Wash. .... Refrigerative Supply, Inc.  
 Sioux City, Iowa .... National Refrigeration Service  
 Springfield, Ill. .... United States Electric Co.  
 Springfield, Mass. .... C. P. Payson Co.  
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 Toronto, Ont., Canada .... Railway & Engineering Specialties Co.  
 Tulsa, Okla. .... Machine Tool & Supply Co.  
 Vancouver, B. C., Canada .... Fleck Bros., Ltd.  
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 Waterloo, Iowa .... Winterbottom Supply Co.  
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Chicago, Ill. .... C. C. Taylor  
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 Los Angeles, Calif. .... Van D. Clothier

New York, N. Y. .... K. M. Newsum  
 San Francisco, Calif. .... A. W. V. Johnson  
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### Australia Representatives

F. C. Lovelock, Ltd.  
 235 Clarence St.  
 Sydney, Australia

### General Export Representatives

Melchior, Armstrong, Dessau Co., Inc.  
 300 Fourth Ave.  
 New York City, N. Y., U.S.A.



## Commercial Uses

### Servel Distributor Makes Installations Of Various Types

CONCORD, N. H.—Several interesting applications of Servel commercial refrigeration equipment have been made recently by H. E. Humphreys, Servel distributor in this territory.

One of these was for Quality Brands, Inc., Lawrence, Mass. A 2-hp. Servel unit, installed in a 28 by 28 ft. cooler, is used to cool 300 barrels of beer.

A completely automatic milk cooling installation was recently completed on E. M. Barney's dairy farm in Rumney, N. H. Milk from the barn is poured into a receiving vat, from which it is pumped through sanitary pipe, sprayed over a large aerator, run into a bottling machine, and then stored in a 10 by 12 ft. cooler.

A brine tank, 8 by 2½ by 5½ ft. is used, containing two coils with separate expansion valves. This weighs ¾ ton, empty, and more than ½ ton of calcium chloride was used in making the brine, Mr. Humphreys reports. Operating the system is a 1½ hp. Servel condensing unit. The plant has a capacity of 1,000 quarts of milk a day.

Other commercial jobs sold by Mr. Humphreys include equipment for the seven FERA camps in New Hampshire; all the equipment at Colby Junior College; milk cooling on former Gov. John Winant's dairy farm, and a large vegetable storage cooler at Nashua.

### Dry-Cleaner Installs Air Conditioner in Vaults For Fur Storage

SHARON, Pa.—Fur storage vaults of The Weller Krouse Co., dry-cleaning establishment of this city, have been equipped with a complete Westinghouse air-conditioning and cooling system installed by Heiges Brothers Electric Co., local Westinghouse dealer.

Westinghouse compressor was placed in a ventilated shed outside the fur storage vault. Measuring 12 ft. in width and 18 ft. in length, the vault is approximately 20 ft. high and tiered in three rows of storage compartments, each tier reached by a steel catwalk. Five inches of cork and 13 inches of brick line the walls of the theft-proof vault.

G. E. Heiges, one of the five brothers in the firm and an officer of the Westinghouse Quota Buster Club, brought in the sale.

### Massachusetts State Farm Installs Freon Cooling Equipment

BRIDGEWATER, Mass.—Six York 5-hp. Freon condensing units, recently installed at the Bridgewater State Farm, provide that institution with up-to-date refrigeration for the cold storage and preservation of the large quantities of meat, fruits, and vegetables used at the farm.

At this farm, one of the largest correctional institutions in New England, from 12 to 25 hogs are slaughtered each month, and all fruits and vegetables are grown on the premises.

The new refrigerating plant replaces a former steam driven system, and provides refrigeration for several large handling, preparation, and storage rooms on the farm.

One of the six York 5-hp. compressors serves a large meat storage room, 25 by 35 ft., where the temperature is held at 32° to 34° F. A bank of overhead type finned coil surfaces is provided in this room, to which the hogs killed at the farm are brought after they have been allowed to hang out of doors for 24 hours.

Another condensing unit serves a cut-meat room and a pickled meat room. These rooms, which get extra refrigeration service because of their connection with the butcher shop, are each 16 by 20 ft.

A third condensing unit serves the butter storage room, dairy room, and smoked meat storage room, each of which is approximately 18 by 25 ft. Three fruit and vegetable storage rooms, also 18 by 25 ft., are served by the fourth unit, while a fifth cools two large bakery storage refrigerators, again 18 by 25 ft. each.

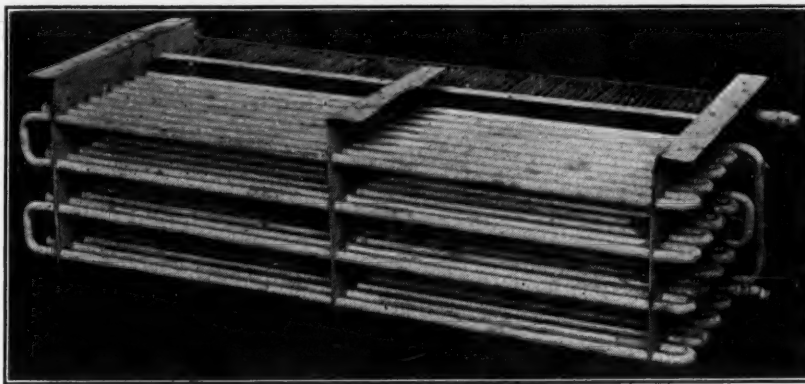
All of these rooms, with the exception of the meat storage room, are fitted with wall type finned coils.

The sixth condensing unit is an emergency, or "stand-by," unit. Liquid refrigerant and suction mains of this unit are cross-connected, and so valved that the entire refrigerating load can be shifted from any one of the operating units to this "stand-by" unit in case of emergency.

### Zenith Carburetor Co. Offers Line of Filters

DETROIT—Zenith Carburetor Co., manufacturer of carburetors and filters for commercial motor vehicles, has entered the refrigeration field with a line of filters for commercial refrigeration units up to 20 tons. Ben Hettler is manager of the new department, and M. Swain is sales engineer.

### Trenton Designs Special Ice Making Coil



Novel ice maker designed by Trenton Auto Radiator for a cafeteria. Trays are placed on the ice making coils and the fin section at the rear acts as a drier surface.

TRENTON, N. J.—An ice cube maker using Kramer fin surface coils and embodying several unusual design features was recently constructed by Trenton Auto Radiator Works for the Elmira Store Fixture Corp., Elmira, N. Y.

The unit was built for the top bunker of a cooler box used in an Elmira cafeteria. Requirements of the system were maximum ice-making capacity for the limited space available, quick freezing, ample box cooling capacity, and low price.

As designed by Kramer engineers, the unit consists of four shelves of ½-inch copper tubing on 1½-inch centers, accommodating 24 trays, each with a capacity of 2 lbs. of ice.

A cooling coil sufficient for the unit's heat loss load was mounted in the rear integrally with the ice-making coil to act as a drier surface. Simplicity of design made it possible to fabricate the unit at a cost about 15% under that of a similar unit equipped with the conventional sheet copper shelves, say Kramer engineers.

### Counter Freezer Group Is Staging First Campaign

CHICAGO — Retail druggists, ice cream specialty store operators, and others who make their own ice cream in counter-type freezers are holding their first annual "We Make Our Own Ice Cream," week, Sept. 12 to 20.

Aggressive advertising and merchandising plans have been developed by the Counter Freezer Association of Chicago for counter freezer users throughout the country.

In many cities C-F users will conduct a cooperative campaign to sell the public on the advantages of ice cream made fresh daily in the merchant's store.

Plans include window and store display material, merchandising activities, and newspaper advertising.

### Exports of Electric Refrigerators

May, 1936, Shipments Reported by the Bureau of Foreign and Domestic Commerce, Washington, D. C.

	Electric Household Refrigerators		Electric Commercial Refrigerators Up to 1 Ton		Parts for Electric Refrigerators	
	Number	Value	Number	Value	Number	Value
Austria .....	75	\$ 4,469	10	\$ 513		\$ 4,068
Azores & Madeira Islands .....	7	603				
Belgium .....	558	42,665	123	10,741		11,496
Czechoslovakia .....	24	1,819				2,313
Denmark .....	18	1,750	38	3,629		2,695
Finland .....	784	43,909	136	12,514		5,504
France .....	4	296				905
Gibraltar .....	6	687				37
Greece .....	35	3,495				550
Ireland .....	8	824	6	290		816
Italy .....	133	12,557	23	1,901		1,361
Lithuania .....	1	78				
Malta, Gozo & Cyprus .....	704	48,467	175	14,541		18,117
Netherlands .....	373	27,583	21	3,176		3,528
Norway .....	2	205				18
Poland & Danzig .....	33	2,906	1	66		1,870
Portugal .....	10	760				448
Rumania .....	28	2,905				2,342
U.S.S.R. (Russia) .....	478	37,098				5,905
Spain .....	388	30,171	98	9,644		10,174
Sweden .....	347	27,978				17,923
Switzerland .....	5,278	333,415	402	44,204		213,846
United Kingdom .....	15	1,263	18	2,452		1,038
Yugoslavia .....	3,087	137,542	139	13,192		117,432
Canada .....	4	560				165
Costa Rica .....	22	1,627	2	163		259
Guatemala .....	8	559				57
Honduras .....	1	109	1	395		69
Nicaragua .....	78	9,050	15	3,070		2,894
Panama .....	15	1,503				47
Salvador .....	590	50,513	55	7,701		7,637
Mexico .....	24	2,198	2	354		448
Newfoundland & Labrador .....	120	10,191	8	1,502		223
Bermuda .....	12	1,111				182
Barbados .....	27	3,366	2	399		63
Jamaica .....	16	1,612				71
Trinidad & Tobago .....	12	1,268				183
Other British West Indies .....	577	52,760	40	5,061		5,403
Cuba .....	36	3,494	1	119		169
Dominican Republic .....	137	13,668	9	1,393		1,906
Netherlands West Indies .....	20	1,966				65
French West Indies .....	1	114	1	29		11,884
Haiti, Republic of .....	17	1,489				
Argentina .....	395	30,991	129	11,593		9,119
Bolivia .....	16	1,322	6	508		119
Brazil .....	194	18,871	9	1,419		2,390
Chile .....	31	2,290	1	84		98
Colombia .....	4	610				12
Ecuador .....	14	1,439				129
Surinam .....	16	1,485	9	1,395		233
Paraguay .....	5	280				757
Peru .....	174	15,086	11	1,309		1,565
Uruguay .....						20
Venezuela .....	496	33,448	19	2,938		6,338
Aden .....	122	8,408	5	742		567
British India .....	10	1,054				464
British Malaya .....	223	18,068	4	699		1,581
Ceylon .....	52	5,527	1	470		2,016
China .....	41	3,273				2,206
Netherlands India .....	24	2,780				675
French Indo-China .....	21	1,912				13
Hong Kong .....	6	715	17	2,577		9,238
Japan .....	747	56,938	63	6,238		1,663
Palestine .....	216	15,612	14	1,849		1,400
Philippine Islands .....	74	5,669	7	1,251		1,64
Syria .....	711	71,572	56	7,973		799
Turkey .....	24	1,774				5,885
Australia .....	6	495				8
British Oceania .....	8	871				19
French Oceania .....	6	392	6	609		1,373
New Zealand .....	14	1,389	1	66		930
Belgian Congo .....	31	2,803	2	233		316
British East Africa .....	1,645	103,881	24	3,058		23,336
Union of South Africa .....	63	5,869				244
Other British South Africa .....	24	2,034				84
Gold Coast .....	33	2,683				347
Nigeria .....	72	6,848	13	1,989		1,928
Other British West Africa .....	114	8,477	15	2,103		3,293
Egypt .....	308	25,134	26	4,503		2,067
Algeria .....	5	300				304
Tunisia .....	72	6,202	1	66		
Madagascar .....	4	339				
Other French Africa .....	185	13,440				555
Liberia .....	39	3,617				389
Mozambique .....	6	525	5	699		73
Canary Islands .....	9	657	2	136		10
Other Spanish Africa .....						
<b>Total .....</b>	<b>20,323</b>	<b>\$1,406,568</b>	<b>1,816</b>	<b>\$197,769</b>		<b>\$570,329</b>
Shipments to: Hawaii .....	488	43,809	26	4,312		8,374
Puerto Rico .....	497	52,527	29	4,870		1,527
Virgin Islands .....						20

### York Equipment in Use in Aquarium at Texas Centennial

DALLAS—Several major installations of York refrigeration and air-conditioning equipment are now in use at the Texas Centennial Exposition here. The installations were handled by the Dallas and Houston offices of the company.

One of the most interesting of the installations is a refrigeration plant in the Dallas Aquarium, where species of fish from all over the world are displayed, some in open-top and some in glass-faced tanks. Many of these must be kept in water the temperature of which is carefully controlled.

#### Installation on Top Floor

To provide the cooled water, two six by six-inch York double-cylinder ammonia compressors, two shell-and-tube condensers, and two water cooling tanks are installed on the top floor of the aquarium, with special steel coils of the zig-zag type in the tanks.

The cooled water flows by gravity to the fish tanks below, then to the filtration tanks in the basement, from which it is pumped back to the coolers on the top floor. The compressors are automatically controlled by thermostats in the two cooling tanks, and a float switch is arranged to shut off the flow of water to the tanks, should the water rise too high.

#### Exhibit Permanent

The aquarium is a permanent exhibit, and will remain under supervision of the city of Dallas park board when the exposition has closed.

Another of the exposition's permanent exhibits is the Museum of Natural History, which is air conditioned by two York 25-hp. Freon condensing units, and four Model C-1500 horizontal type air-conditioning coils serving a system of ductwork. Condensing water is sprayed into a lagoon which forms part of the landscape, and is then returned to the condensers.

#### Coca-Cola 'Old' User

In the Coca-Cola exhibit, York refrigeration cools water for carbonating purposes, just as it did in the Coca-Cola exhibit at A Century of Progress in Chicago in 1932 and 1933. This installation includes a York 5 by 5 in. double cylinder self-contained ammonia condensing unit, and a stainless steel surface water cooler.

Another air-conditioned exhibit is that of Humble Oil & Refining Co., which uses a 1- and 20-hp. Freon condensing unit, two F-3000 air conditioners, and an EFB-1400 economizer for cutting down the water consumption. The equipment conditions the oil company's entire display, even to the rest rooms.

#### Cafe Conditioner in Window

Of the other York air-conditioned exhibits at the Exposition, perhaps the best advertised is a 7½-hp. air-conditioning system installed in the Garden Cafe by Dallas Air Conditioning Co., York distributor here.

The entire condensing unit is mounted in the front window of the restaurant, for all passers-by to see, and liberal sign space proclaims the fact that the establishment is air conditioned for its patrons' comfort.

### SCURLOCK — KRISPERETTE — For All Refrigerators

#### Definite Sales Facts

- Instant Visibility—Satisfaction
- Prevents Dehydration—Always Fresh
- Twin Covers—Convenient
- KRISPERETTE—stores all fresh vegetables, meats, fish and fowl

All refrigerator requirements solved—Scurlock units equip them completely.



Entire contents removed without taking unit from shelf.

New Profits—start pushing For Details—WIRE or WRITE

SCURLOCK KONTANERETTE CORP. 1477 Merchandise Mart - Chicago

## THE ANSUL TWINS

**ANALYZED  
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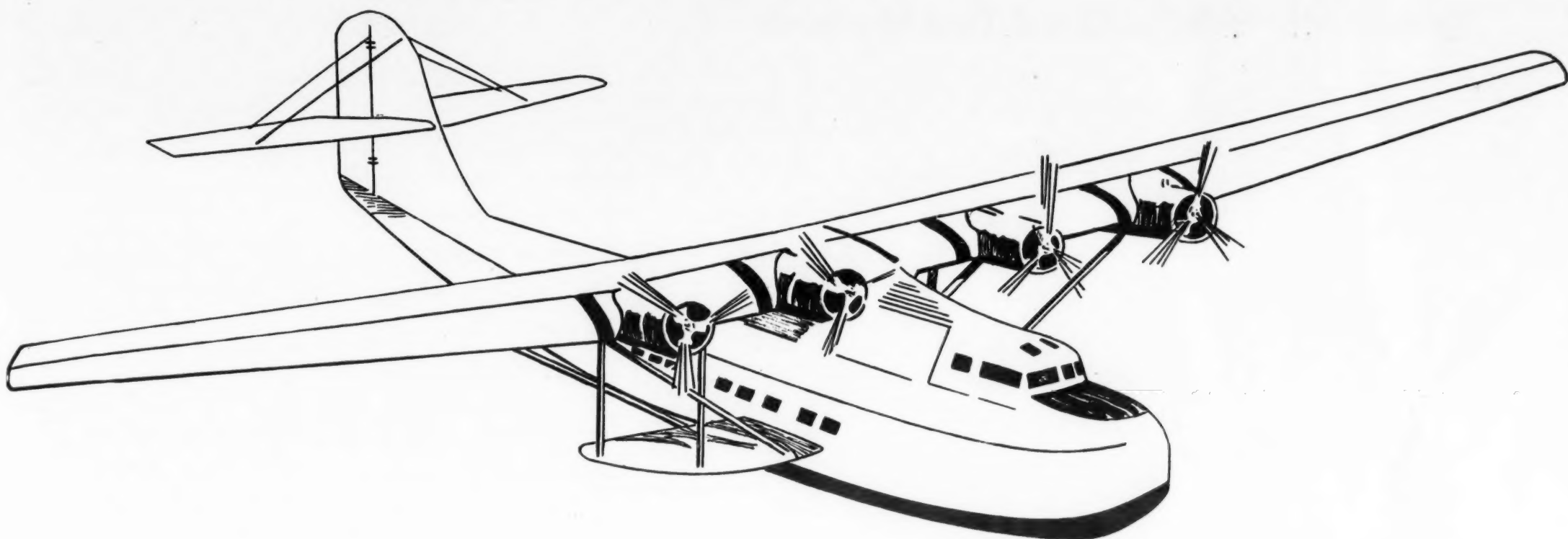
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# MODERN PIONEERS

Modern industry, like modern travel, was pioneered by aggressive leaders. Leaders in the designing room, on the production line, in the sales department, or working alone in a small shop or office. But leaders — in thought and in accomplishment, and in the aggressive drive which precedes any worthwhile improvement or lasting achievement.

The refrigeration industry has had a full share of such leadership. Long after the country had been spanned by railroad lines and automobiles were commonplace on streets and highways, the American public knew only ice, window boxes and well buckets for refrigeration purposes. Today eight million homes are proud of their electric refrigerators, a million and a half commercial units serve a wide variety of markets, shops and stores, and the world market is looking with keen interest upon this American industry.

The **Industry Pioneer Number** of *Air Conditioning and Refrigeration News* will pay tribute to the leaders whose mechanical ingenuity and

sales aggressiveness have made this possible. In recounting the story of their achievements, this feature edition will present important background information on the initial developments in the refrigeration and air conditioning industry.

All those who look to these fields of activity for employment or profit will find the **Industry Pioneer Number** of unique interest and value. And to the companies which have played an important part in the development of the industry, this issue will furnish an ideal editorial background for an effective sales message. Advertising copy which tells about your company's experience and accomplishments will blend interestingly with the editorial columns.

## INDUSTRY PIONEER NUMBER

### OCTOBER 7, 1936

## AIR CONDITIONING AND REFRIGERATION NEWS

Business News Publishing Co., 5229 Cass Avenue, Detroit, Michigan



## Government Form for Bids on Refrigerators For Housing Project Reveals Nature of Specifications & Required Test Methods

Below are published excerpts from the specifications on which bids were received by the Federal Emergency Administration of Public Works, Housing Division, for domestic electric refrigerators for use on 34 housing projects.

Eight manufacturers submitted bids on the projects, which covered the purchase of 16,697 refrigerators. A report of the individual bids, kwh. consumption guarantees, and rank of the bidding companies was published in the Sept. 2 issue of the News.

These specifications are being published to show the nature and scope of the tests, and the performance standards which are required of refrigerators purchased by the government for its own use.

### Schedule Form A

The contractor shall furnish, deliver, locate in place and connect, test and inspect all domestic electric refrigerators for the 34 housing projects located in the cities hereinafter listed and in the quantities for each project and in the approximate dates, all as listed.

**Base Bid:** Furnishing, delivering, locating in place, connecting, testing and inspecting 16,697 domestic electric refrigerators as specified, for the total consideration of \$.....

**Alternate Bid (Alternate A):** If freight from the shipping point to the cities where the projects are located, is not included and will be taken care of on Government bill of lading. The total consideration will be \$.....

If the contractor shall give below the point of origin of shipping and the shipping weight per unit for the purpose of determining the charges under the Government bills of lading.

Shipping point.....

Shipping weight.....

If the contractor proposes to make shipment from more than one point depending on the location of the project, he shall submit a list with his bid giving for each project the point from which he proposes to ship the refrigerator units.

### List

The following is a list of the projects and their locations, also the appropriation number, approximate delivery date, and quantity for each project. The contractor shall state after each project the total consideration under "Base Bid" and the total consideration under "Alternate A."

This list further provides for designation as to the base bid and as to the alternate of the total cost for the approximate quantity for each project. The bid, however, will be considered on the basis

of a total of 16,697 refrigerators, evaluated in accordance with the requirements of section 3, paragraph 10, division I, and of section 16 of division II of the specification.

1. The bidder shall state on the line below the guaranteed K.W.H. consumption for 24 hours as determined by average of 90° F. and 110° F. no load and load tests specified in Section 13 of the Detailed Specification of the work to be performed.

The one year guarantee is fully set forth in Section 14 of the Detailed Specification of the work to be performed.

The quantities given for each project in each city are approximately correct within 5%, plus or minus. Any additions or deductions to the approximate quantity given for each project shall be added or deducted at the unit cost equal to the amount derived by dividing the total quantity for the particular project into the total amount for this project.

In addition to the 5%, plus or minus, variation allowed for each project, the Government may further, either prior to the award or thereafter, reduce the total number of refrigerators specified herein by 2,500 by eliminating the entire requirements for refrigerators from one or more of certain projects, in which event the contract price shall be reduced by the amount or amounts named in the bid as allocated to the project or projects eliminated.

Should the entire requirements for refrigerators for one or more projects be eliminated prior to the award of the contract, the bid will be evaluated in the same manner as provided in Division II, Section 16 of this Specification, except that the amount of the bid shall first be reduced by subtracting therefrom the amount named in the bid for the projects eliminated (plus the freight charges in the event the alternate bid is accepted) and the total number of refrigerators shall similarly be reduced by the number of refrigerators omitted.

It is proposed to accept the refrigerators f. o. b. destination in kitchens, freight included, but the Government reserves the right to accept delivery for any or all projects as listed in Alternate "A" f. o. b. destination in kitchens on Government bill of lading, whichever method will be most economical to the Government.

The prices include all costs of delivery and locating in place and connecting and inspection after connecting in the Base Bid. The prices under Alternate "A" include all costs of delivery and locating in place and connecting and inspection after connecting, except that freight from shipping point to the city where the project is located is not included and will be taken care of on Government bill of lading.

Separate notice to proceed will be given for articles or items for each project. Delivery of articles or items for each project will be completed within times

specified in Section 6 of Division I of the general conditions.

Bids shall be evaluated in accordance with the provisions of Section 16 of the Detailed Specification of the work to be performed.

### Division I

#### Sec. 3. Form of Bid:

10. In evaluating bids for the purposes of determining the award, the unit cost shall be determined by dividing the total quantity of 16,697 refrigerators into the amount of the base bid f.o.b. destination in kitchens, freight included, this unit cost to be used in the formula prescribed in Division II, Section 16 of this Specification.

#### Sec. 7. Performance Bond:

1. The successful bidder shall furnish a performance bond in a penal sum equal to at least fifty per cent (50%) of the amount of the successful bid. Such bond shall be in the form of Standard Government Form of Performance Bond, Construction or Supply, Standard Form No. 25, Revised, a copy of which is included with this Specification.

### Division II—Detailed Specification of the Work to Be Performed

#### Sec. 1 General:

1. These specifications cover electric refrigerators of the front door opening type, for domestic use.

2. Refrigerators shall be of the self-contained, air-cooled, portable type. They shall be completely charged with refrigerant and oil and properly adjusted at the factory so that no further immediate charging, oiling or adjustment may be necessary.

3. Refrigerators shall be listed under the Underwriters Laboratories Re-Examination Service.

4. Refrigerators shall be constructed of materials that will not impart undesirable odors or tastes to food placed in the storage compartment.

5. All refrigerators shall be the latest models and shall be of a make and type that has been in successful operation for at least two years and is known by the Contracting Officer to have given satisfactory service.

#### Sec. 2 Refrigerator Volume and Dimensions:

1. Refrigerators shall have a net volume (approved Nema rating) of not less than 4 cubic feet.

2. The total shelf area shall be calculated by the approved Nema rating.

3. Dimensions—Refrigerator overall dimensions shall not exceed the following:

Maximum width ..... 24½ inches  
Maximum height ..... 57 inches  
Maximum depth ..... 26 inches

#### Sec. 3 Ice Trays:

1. Each refrigerator shall be provided with at least two aluminum or other non-corrosive metal ice trays with a minimum total capacity of four lbs. of water.

2. Aluminum trays shall be anodically treated.

3. All ice trays shall be equipped with a hand-operated release lever or equivalent means for quickly and effectively loosening frozen-in trays.

#### Sec. 4 Refrigerator Cabinet Exterior:

1. The front and side and top coverings of the refrigerator cabinet shall be of sheet steel not less than 22 Gauge—U. S. Standard (where outside shell carries entire weight of refrigerator; and not less than 24 gauge where outside shell does not carry entire weight). The steel shall be bonderized or treated in some equivalent manner to resist rusting.

2. The outer surface shall be finished with a minimum of one prime coat and one finish coat of white lacquer. All coats shall be baked.

3. Provisions shall be made for sealing the outer shell of the cabinet against the entrance of moisture to the insulation, in accordance with recognized good practice.

4. The exterior of the cabinet shall not show signs of sweating in a 90° room temperature of 70% relative humidity with an average food compartment temperature of 43° F. (This does not apply to the immediate proximity of the refrigerant lines.)

#### Sec. 5 Food Compartment Liner:

1. The food compartment liner shall be of welded steel construction with rounded corners which can be easily cleaned. The steel shall not be less than 0.030 inches in thickness.

2. The inner surface shall be finished with one ground coat and not less than one finish coat of white porcelain enamel. The bottom of the liner shall have a coat of white acid-resisting porcelain enamel, complying with the following test specifications:

Apply 10% solution of acetic acid, allow to remain 30 minutes at room temperature. Wash off with water, dry and examine for glaze. Wash off with Old Dutch cleanser, dry and examine. Should not show signs of staining or loss of glaze.

3. The ground coat shall cover both sides of the liner.

4. The white porcelain finish shall be glossy, free from objectionable discoloration, cracks, thin spots, holes or other imperfections and shall show no signs of ground coat where metals have been joined together or at the corners.

#### Sec. 6 Insulation:

1. The insulation of the cabinet and door shall not be less than 1½ inches in thickness after assembly and shall have a conductivity of not greater than .31 B.t.u. per hour per square foot per inch of thickness per degree temperature difference.

2. The insulation shall be arranged so that it will not settle.

3. Joints between insulation sheets or slabs shall fit snugly so that heat losses will be reduced to a minimum at these points.

#### Sec. 7 Shelves:

1. Cabinets shall be fitted with wire or bar type shelves having cross wires

the condensing units to maintain internal cabinet temperatures of not more than 50° F. in a 110° F. room and not less than 32° F. in a 60° F. room with no food load and the doors closed.

#### Sec. 12. Motors:

1. Motors shall be designed for operation on 115 volt, plus or minus 10%, 60 cycle, single phase, alternating current.

2. Motors shall be capable of starting in a temperature of 110° F. on voltage between 90 and 110% of rated voltage. (115 volts).

3. A thermal overload shall be provided which will protect the motor against overloads in accordance with the requirements of the National Board of Fire Underwriters.

#### Sec. 13. Operating Guarantees and Tests:

1. The performance of the refrigerators shall be equal to or better than the following minimum values under conditions as specified. Bidders shall submit in their bids guaranteed performance data:

##### (a) No-Load Performance:

Room Temperature	Average Cabinet Temperature	Maximum Per 24 Hours
°F	°F	
90	43	1.3
110	48	2.3

##### (b) Ice Freezing Performance:

In a 110° F. room with a maximum average cabinet temperature of 48° F. at start of test, the refrigerator shall be capable of freezing the complete charge of four pounds of water in less than six hours. The water shall be at a temperature of not less than 90° F. when it is placed in the refrigerator.

##### (c) Starting Performance:

The refrigerating unit shall be capable of starting and running under the following conditions:

The complete refrigerator shall be placed in a 110° F. room and with food compartment door open with the unit disconnected for 24 hours. The food compartment door shall then be closed and the unit started and operated for 2 hours. At the end of 2 hours the unit shall be stopped and be capable of restarting with a line voltage of 90% of the rated voltage of 115 volts.

##### (d) Load Performance:

Room Temperature	Maximum Average Cabinet Temperature
°F	°F
90	45
110	50

Conditions: The control shall be adjusted to give the above average cabinet temperature with a constant 25-watt heat load in the food storage space. The 25-watt heating element shall be shielded from the thermocouples. The heating element shall be placed 5 in. from the bottom of the cabinet.

##### (e) General Condition of Tests:

In all tests, cabinet air temperatures shall be determined by three thermocouples located as follows:

All thermocouples shall be in a vertical line half-way between the evaporator and side of the cabinet and half-way between the front and back walls. One thermocouple shall be located 5 in. from the top of the liner, one 12 in. from the top, and the other 5 in. from the bottom.

The recorded average cabinet temperature shall be the average of the temperatures as recorded by the three thermocouple readings. The thermocouples shall be in good thermal contact with a mass (Concluded on Page 7, Column 1)

## Housing Director Denies Rumor

Federal Emergency Administration of Public Works  
Washington, D. C.  
Sept. 10, 1936.

Gentlemen:

Subject: Electric Refrigerator Bids.

Reference is made to the ELECTRIC REFRIGERATION NEWS of September 2, Volume No. 19, No. 1, Serial No. 389, commenting on the bids received by the Housing Division for 16,697 electric refrigerators for 34 Housing Projects.

The following quoted statements "annual operating cost guarantee may be challenged" and "it is rumored that the Westinghouse operating cost figures have been challenged by the Government" are without justification and not only embarrassing to the Westinghouse Electric and Manufacturing Company but to the Housing Division.

I feel that in justice to all parties concerned these statements should be retracted in the next issue of the ELECTRIC REFRIGERATION NEWS and in the future if you want positive information as to the Housing Division's activities, please forward your inquiries direct to the Housing Division.

H. A. GRAY,  
Director of Housing,  
For the Administrator.

## Contract Not Yet Awarded

Telegram

Sept. 14

H. A. Gray  
Director of Housing  
Federal Emergency Administration of Public Works

Referring your letter September tenth has Westinghouse proposal on electric refrigerators been accepted. If not can you inform us approximate date contract will be awarded. Will appreciate wire answer for publication supplementing your letter to appear in this week's issue going to press Tuesday night.

ELECTRIC REFRIGERATION NEWS.

Telegram

Sept. 15

Electric Refrigeration News  
5229 Cass Ave.

Retel September fifteenth depending dates of awarding superstructure contracts for exact county electric refrigerator contract may be awarded within following thirty days.

H. A. GRAY, Director of  
Housing for the Administration.

not less than .263 inches in diameter, or other construction of equal strength.

2. Shelves shall be hot tinned after fabrication.

#### Sec. 8 Hardware:

1. Hardware shall be of steel, brass, or zinc base, with a chrome finish, or other suitable material.

2. The exterior finish shall be of such quality that it will remain intact when subjected to a 10% salt spray solution as measured by a saline hydrometer for a period of 36 hours, at 92° F.

3. The hardware shall be of sturdy construction and shall be attached to the cabinet in a substantial manner.

4. Latches shall be of the self closing, quick acting type, which will hold the door tightly closed.

#### Sec. 9 Cooling Unit:

1. The cooling unit shall be of pressed sheet or shell and tube construction made of brass, copper, stainless steel or enameled steel finished with vitreous porcelain enamel. Brass or copper evaporators shall be suitably plated to prevent corrosion or tarnishing.

2. The cooling unit shall be rigidly mounted.

#### Sec. 10 Condensing Units:

1. The condensing units may be of the hermetically sealed or open types.

2. The compressor speed of open types shall not exceed 700 r.p.m.

3. Condensing units shall be quiet in operation and free from excessive vibration.

4. Condensing units shall be automatic in operation.

#### Sec. 11. Temperature Control:

1. Refrigerators shall be equipped with a temperature control which shall be capable of controlling the operation of

## Locations of Projects and Number of Refrigerators to Be Used

Domestic electric refrigerators as per specifications to be delivered to the Housing Division in quantities and at places as follows:

Project No., Name, and Location	Appropriation Number	Approximate Delivery Date	Quantity
H-5001—Stanley S. Holmes, Atlantic City	ERA 052024	Jan. 1, 1937	278
H-2902—Smithfield Court, Birmingham	ERA 052024	July 1, 1937	540
H-3302—Old Harbor Village, Boston	ERA 052024	June 1, 1937	1,022
H-6703—Kenfield, Buffalo	ERA 052024	June 1, 1937	660
H-6002—Westfield Acres, Camden	ERA 052024	July 1, 1937	515
H-8901—B—(W) Meeting Street Manor (C) Cooper River Court, Charleston	ERA 052024	July 1, 1937	214
H-1401—Jane Addams Addition, Chicago	NIR 40-443/70684	Oct. 1, 1937	602
H-1405—Jane Addams Houses, Chicago	ERA 052024	March 1, 1937	306
H-1406—Julia C. Lathrop Homes, Chicago	ERA 052024	Aug. 1, 1937	894
H-1408—Trumbull Park Homes, Chicago	ERA 052024	June 1, 1937	462
H-1801—Laurel Homes, Cincinnati	ERA 052024	Oct. 1, 1937	916
H-1001—Cedar-Central Apts., Cleveland	NIR 40-443/70684	Dec. 1, 1936	654
H-1002—Outhwaite Homes, Cleveland	ERA 052024	Jan. 1, 1937	579
H-1003—Lakeview Terrace, Cleveland	ERA 052024	Jan. 1, 1937	620
H-5201—Columbia Terrace, Columbia	ERA 052024	June 1, 1937	122
H-7901—B—Cedar Springs Place, Dallas	ERA 052024	June 1, 1937	183
H-1201—Brewster, Detroit	NIR 40-443/70684	Sept. 1, 1937	692
H-1205—Parkside, Detroit	ERA 052024	Oct. 1, 1937	775
H-3801—Lincoln Gardens, Evansville	NIR 40-443/70684	Sept. 1, 1937	182
H-1601—Lockfield Garden Apts., Indianapolis	NIR		
H-4702—Durkeeville, Jacksonville	ERA 052024	March 1, 1937	748
H-5103—(W) Blue Brass Park (C) Aspendale, Lexington	ERA 052024	June 1, 1937	217
H-1502—Parklawn, Milwaukee	ERA 052024	June 1, 1937	288
H-4201—Sumner Field Homes, Minneapolis	ERA 052024	Dec. 1, 1936	519
H-2101—Cheatham Place, Nashville	ERA 052024	June 1, 1937	459
*H-2101-A—Cheatham Place, Nashville	ERA 052024	June 1, 1937	317
H-2102—Andrew Jackson Courts, Nashville	ERA 052024	July 1, 1937	278
H-1301—Ten Eyck Houses, New York	ERA 052024	Aug. 1, 1937	1,545
H-1302—Harlem River Houses, New York	ERA 052024	June 1, 1937	579
H-2001—Logan Fontenelle Homes, Omaha	ERA 052024	Aug. 1, 1937	332
H-3001—C—Hill Creek, Philadelphia	ERA 052024	July 1, 1937	259
H-5801—Schonowee Village, Schenectady	NIR 40-443/70684	Aug. 1, 1937	222
H-9601—Fairfield Court, Stamford	ERA 052024	June 1, 1937	147
H-2601—Brand Whitlock Homes, Toledo	ERA 052024	Sept. 1, 1937	296
H-1706-A—Langston, Washington, D. C.	ERA 052024	Aug. 1, 1937	275

Total.....16,697  
\*Allotment included in H-2101.

**COPELAND**  
Dependable  
ELECTRIC REFRIGERATION



COPELAND REFRIGERATION CORP. Holden Ave. at Lincoln · DETROIT

**Important**

**TO MANUFACTURERS OF DISPLAY REFRIGERATION EQUIPMENT**

The new LOXIT type Ace Hard Rubber Doors are attracting wide attention due to their new and valuable improvements in construction and design. • It will pay you to investigate LOXIT at once as the new doors are now available at no extra cost. Write to

**AMERICAN HARD RUBBER CO.**  
11 MERCER ST., NEW YORK, N. Y.  
AKRON, OHIO  
111 WEST WASHINGTON ST., CHICAGO, ILL.



## How Government Evaluates Bids On Refrigerator Purchases

(Concluded from Page 6, Column 5)  
having a heat equivalent of not more than 5 grams of water.

For the no-load tests the thermocouples shall be read when the unit starts and stops and in all other tests the thermocouples shall be read at intervals of 15 minutes. The readings used in determining the no-load and food load performance shall be taken over a period of 24 hours for each test.

All accessories furnished with the refrigerator shall be in place during the test. In all tests the line voltage at the unit shall be maintained at 115 volts plus or minus 2 volts. Each refrigerator shall be separated by a distance of not less than two feet from other refrigerators, from test room walls, and from heating and cooling devices used in the test room.

"The refrigerator shall be so placed or shielded as not to be affected by direct radiation to or from the cooling or heating equipment. Air circulation in the test room shall be such as to secure the specified uniformity of temperature distribution but shall not cause a direct draft upon the refrigerator under test. Windows in the test room shall be provided with suitable radiation shield."

The ambient temperature shall be maintained within plus or minus 1° F. of the specified values at points 3 feet above the floor and 1 foot from the sides, front and back of the cabinet. The vertical temperature gradient from the floor to a height of 7 feet shall not exceed .5° F. for each foot of vertical distance. All thermocouples used either for recording ambient temperatures or cabinet temperature shall be shielded.

### Sec. 14. Service Guarantee:

The contractor guarantees that if at any time within one year after the date of installation of said equipment, it becomes inoperative, as hereinafter defined, due to a defect in the refrigerating unit of the refrigerator, or any part thereof, the contractor will, within 12 hours after being notified of such conditions repair such defect, and if he cannot make the refrigerator operative, as hereinafter defined, he agrees that he will make such replacements in said refrigerating unit, or any part thereof, as may be necessary to make it operative, as hereinafter defined, or at his option replace the refrigerator with a complete refrigerating unit or a refrigerator of similar design and capacity. The provisions of this paragraph do not apply to the porcelain and lacquer finishes.

The refrigerator shall be considered inoperative within the meaning of the above paragraph if there is an increase in consumption of current of more than 25% of that normally required to maintain an inside maximum temperature of 50° F. or a rise in temperature inside to exceed a maximum temperature of 50° F.

### Sec. 15. Information to Be Furnished With Bid:

1. In addition to the performance data, the following information shall be furnished with each bid:

- Exterior dimensions.
- Net weight, complete refrigerator and cabinet.
- Actual net volume (Nema rating).
- Actual net shelf area (Nema rating).
- Number and capacity of ice trays.
- Thickness, kind, and thermal conductivity of insulation B.t.u./hr. "F./in./sq. ft.

(g) Description of method of sealing insulation against moisture.

(h) Names and addresses of distributors or agents who will furnish service. If the contractor cannot give positive information as to the names and addresses of such distributors or agents who will service the units in each city after installation at time of submitting bid, such detailed information shall be submitted to the contracting officer within 10 days after "Notice to Proceed" has been issued to the contractor for each Project in its respective city.

### Sec. 16. Evaluation of Bid:

1. The Base Bid shall be evaluated, for the purpose of determining the award (if the award is to be made on the Base Bid) by dividing the total quantity of 16,697 refrigerators into the amount of the total "Base Bid" price, and adding to the resultant unit price the guaranteed kwh. consumption per 24 hours as determined by the average of the 90° F. and the 110° F. room no load and load tests, multiplied by \$36.50, which is the estimated cost of current for 10 years at 1¢ per kwh.

2. The Alternate Bid shall be evaluated, for the purpose of determining the award (if the award is to be made on the Alternate) by dividing the total quantity of 16,697 refrigerators into the sum of the "Alternate A" price and the cost of freight under Government bills of lading for the 34 cities (based on the origin of shipping and weight given by the manufacturer) and adding to the resultant unit price the guaranteed kwh. consumption for 24 hours as determined by the average of the 90° F. and 110° F. room no load and load tests, multiplied by \$36.50, which is the estimated cost of current for 10 years at 1¢ per kwh.

### Sec. 17. Guarantee:

In order to check the guaranteed performance of the refrigerators after the award the Government has the privilege of selecting from four to six refrigerators of the type herein specified from stock for tests to be conducted in accordance with these specifications.

If the kwh. consumption as determined in these tests exceeds the guaranteed kwh. consumption as given in the bid, the Contractor shall be liable for the difference in dollars between the guarantee and the actual kwh. consumption shown on these tests, evaluated over a 10-year period at a rate of 1¢ per kwh.

Such tests as desired by the Government shall be made at the National Bureau of Standards at the Government's expense. If the contractor so elects, the tests may be made at an impartial laboratory selected by the contractor subject to Housing Division approval, at the contractor's expense, exclusive of the traveling and subsistence expenses of the Government representatives. If the tests are to be conducted at the National Bureau of Standards, the contractor shall be permitted to have not more than two factory representatives present to witness such tests. If the tests are to be conducted at a laboratory selected by the contractor, the Government reserves the right to have not more than two representatives present to witness such tests. The contractor shall ship at his expense the required number of units to be tested to

the National Bureau of Standards or laboratory selected.

### Sec. 18. Instructions:

The contractor shall furnish complete instructions with each unit, explaining in detail the proper operating characteristics and maintenance requirements; and any other standard literature or descriptive matter normally supplied referring to special menus, desserts, etc., that can be made in the refrigerator.

### Sec. 19. Inspection:

The refrigerators shall be delivered at the Housing Project for which they are destined, uncrated and set in the proper place in each kitchen. The contractor shall connect the refrigerator electrically by inserting the receptacle cap, furnished with the refrigerator cord, into the convenient wall receptacle installed near the refrigerator locations by others. The contractor shall put the refrigerator in operation and after checking the operation, inside temperature and control adjustments, etc., and having found them to be satisfactory, shall certify to the contracting officer that such is the case before turning the refrigerator over to the Government for use and final payment. The electric energy required for testing these refrigerators in place in the kitchens shall be supplied to the contractor by the Government at the Government's expense. If, for any reason, the Government is not in a position to furnish electric energy for the testing of

these refrigerators in place at the time the refrigerators are installed by the contractor, payment for these refrigerators will not be withheld for refrigerators for the reason that they have not been inspected and tested in place. If such a condition exists, the contractor will be given 10 days' notice when electric energy will be furnished for the proper inspection and testing and the contractor shall proceed with such inspection and testing accordingly as required above in this Specification.

The contractor shall remove all debris or rubbish, cratings, etc., occasioned by the contractor, from all buildings and the site proper, and shall be responsible for all damages to buildings, walls, floors, or other equipment due to furnishing, delivering, locating in place, and inspecting the item or articles involved in this Specification.

## Duncombe Leaves R. Cooper To Head Mart Publicity

CHICAGO — John S. Duncombe, formerly of the sales promotion department of R. Cooper Jr., Inc., General Electric distributor here, has been appointed advertising and publicity manager for the Merchandise Mart, announces H. D. Laidley, manager of sales and promotion.

## Housewives Will Talk To Girl Canvassers, Dealer Declares

MADISON, Wis.—E. E. Berg of Metropolitan Sales Co. here found that doors opened easily to the three young ladies he sent out to get prospect names when housewives discovered that the canvassers could speak their housewife's jargon, had a free non-partisan booklet to give away, and, to all appearances, represented no one concern.

The booklet, Mr. Berg says, tells of the advantages in owning a modern electric refrigerator, and gives information on the improvement in refrigerators in recent years.

More than 75% of the housewives, it was found, are willing to talk on the subject of refrigeration and household appliances in general when approached in such a manner, although they would refuse to talk to a salesman or male canvasser.

The women get the name and address of the housewife apparently only for a report to the office that a free booklet has been delivered.

# Industrial Evolution

SHORT years ago as a horse doddered on into his 'teens he was replaced with another horse. But in 1886 Carl Benz replaced his horse with "the world's first motor-car." Gradually the world replaced hoofs with motor-driven wheels. Now cars replace cars in a rapidly changing cycle.

In a sense *REPLACEMENT* is another word for history. As great new industries grow up they necessarily become more and more concerned with replacement. Manufacturers of electrical refrigerators have now reached this stage of evolution. Last year over 150,000 electric refrigerators (10% of the year's sales) were replacements.

This year? ... Next year? ...

TIME is the backbone medium for reaching this important replacement market.



For facts about the TIME market for refrigerators write to TIME, 135 East 42nd Street, New York City.

## Air Conditioning Group Sales for Month of July, 1936, Total \$1,760,832

Data tabulated below is the seventh in a series of monthly statistics on the value of orders booked for air-conditioning systems and equipment, released through the office of Director William L. Austin, Bureau of the Census. Orders booked by 98 manufacturers are shown in this tabulation.

Item	Value of Orders Booked, 1936	
	July	Total, 7 Mos.
<b>Total</b>	<b>\$4,155,853</b>	<b>\$24,572,299</b>
<b>Air Conditioning Group—Total</b>	<b>1,760,832</b>	<b>12,185,379</b>
Unit Systems—		
Self-contained (shipped substantially complete).....	321,844	1,650,047
Not self-contained (shipped in sections), including refrigerating or cooling medium.....	678,146	3,909,830
Central-station Systems, excluding installation if installed—		
Human comfort (including refrigerating or cooling medium sold separately or otherwise for air conditioning)*.....	408,283	3,614,927
Industrial (including refrigerating or cooling medium sold separately or otherwise for air conditioning)*.....	49,040	401,346
Refrigerating or cooling medium sold to contractors or other distributing outlets (not manufacturing air-conditioning equipment) for air-conditioning systems, when such knowledge as to the application is available.....	124,581	1,487,777
Air washers, including pumps and motors and controls where furnished.....	65,738	468,046
Air filters (not including sales of filters used with machinery other than fans).....	11,648	141,126
Humidifiers.....	101,552	512,280
<b>Fan Group—Total</b>	<b>\$1,631,686</b>	<b>\$7,966,066</b>
Fans, including bearings, pulleys or couplings (if furnished)—		
For public and semi-public buildings.....	139,386	1,003,829
For general industrial uses.....	414,822	2,292,749
For mechanical draft.....	150,951	868,942
For jobber stocks and unknown uses.....	84,534	428,526
Small housed and propeller fans—		
Direct connected small housed blowers with motors and control (merchandise motors).....	146,627	754,062
Propeller fans, direct connected and belted (for ventilation only).....	600,534	1,971,410
Driving mechanism for general fan use (not reported above)—		
Electric motors and controllers (manufactured or jobbed).....	85,248	487,820
Steam engines and steam turbines (manufactured or jobbed).....	9,564	58,728
<b>Unit Heater Group—Total</b>	<b>\$763,355</b>	<b>\$4,520,854</b>
Industrial Type Unit Heaters, including heating element and motors where furnished—		
Equipped with blower-type (centrifugal) fans.....	172,174	640,582
Equipped with propeller-type fans.....	308,815	1,614,954
School-Room Type Unit Heaters, including heating element and motors and control where furnished.....	123,926	1,228,322
Indirect Heating Surface (not including unit heater surface)—		
Steel pipe coil type (manufactured or jobbed).....	2,896	14,499
Cast iron type (manufactured or jobbed).....	13,892	88,869
Copper or aluminum type (manufactured or jobbed).....	141,652	933,628

\*Includes incidental equipment, such as temperature, motor, humidity, and electrical controls, dampers, outlets, etc., as are sold with each.



## Around the World

With George F. Taubeneck

Because of the current interest in Spain, fostered by the civil war between communist and fascist factions, the 37th instalment of the editor's "World Series" travelog skips two ports, and jumps right into the seething land of the bullfight, the siesta, and the senorita.

Between Jerusalem, where followers of this travelog were left, and Barcelona, where this instalment begins, the editor made stops at Malta and Marseilles. Brief impressions of conditions in these cities will be reported in a following issue.

In this instalment the editor tells of his experiences in Spain just before the outbreak of recent hostilities, when the two bitterly opposed factions "were beginning to make faces at each other." Export managers of American manufacturers report that lines of communication with their representatives in Spain have been completely cut off, and so this story represents the last available information on the refrigeration business in Spain.

### Old Spanish Custom

Spain, I thought, was a pretty fine place—until I got the bill.

There had been music and gaiety, torrents of people, pretty girls, and dashing caballeros. There had been fine new friends, exciting experiences, and color. Man! What color!

But when we dashed away from Barcelona's Hotel Colon in a mad scamper to catch the 2:05 for Paris, it was raining and dismal. And then the bill.

ROY NOBLES, Servel distributor for Spain, had paid the hotel bill for me, to save time while I was upstairs packing. My first look at the bill came when it was too late to do anything about it, after Mr. Nobles handed it to me in the car.

In the first place, it was five pesetas (about a dollar) more per day than the agreed-upon price. In the second, there was added onto this bill a little chit with extras including government tax, a contribution for the Society of St. Therese, an unexplained "impost" of 10%, a "service" charge of 10%, and a gratuity for the cook.

The "service" charge is common in many foreign hotels; it is supposed to dispense with tipping (although, judging from the bright smiles, nudges, and outstretched palms, the "help" hasn't heard about this yet).

But the sad part of this bill was the fact that there had been no service! Shortly after I checked in at the Colon, all the cooks, waiters, bus boys, elevator operators, chamber maids, and bellhops in the city went on strike. I had made my own bed, dined on chocolate and oranges when not being entertained by friends, and trudged up and down 520 steps to my room.

I didn't mind the contribution to St. Therese, but paying for the absence of service was a bit thick.

"There'd have been a real fight if I had been there to settle this bill," I raged.

"What would you have done?" inquired Mr. Nobles, drily—even if it was very wet weather.

"I'd have paid just what I owed—and swung on the first person that tried to stop me from leaving."

There was a pause.

"Oh, yeah?" drawled R. FAWCETT, European manager for Servel.

Then I remembered. Seated in the lobby of the Colon were three armed military policemen.

### You Can't Get Your Money

Spain is like that. Lovely place. Laughing eyes. Carefree joy. Beautiful country. Lavish cities. Grand people. Plenty of spenders. Lots of business to be had.

But there's a catch in it. That "catch" is the government, and its soldiers and military police. Not only do they make the concept of "liberty" a hollow laugh, but in the payment of bills they remind me of what my friend Mr. Levinson, Palestine distributor for Westinghouse (a Russian who speaks six languages, but whose English becomes complicated under emotional stress) calls:

"A man who stands by the road with a horse and pulls out your money by a gun."

Take electric refrigeration, now. Spain ranks about fifth among all the countries of the world in imports of electric refrigeration equipment. Commercial business has been marvelous. Household sales have been excellent, and getting better all the time. A real demand has sprung up for air conditioning.

Business is fine, and could be much

better. But American manufacturers can't get their money for the equipment they have shipped to Spain.

That worries Spanish distributors as much as it distresses American manufacturers. For the distributors realize that if this situation continues, American manufacturers will soon cease shipping equipment to Spain. Whereupon all their investment in building up a name and organization will go blooey.

(Note: All shipments of refrigeration and air-conditioning equipment from the United States to Spain have been held up pending the settlement of the revolution.)

### You Can Come In But You Can't Get Out

Here's the how of it:

Spain is worried about her unfavorable trade balance. America, for example, exports far more to Spain than she imports from the land which once sent Christopher Columbus to the New World.

So the Spanish *senors*, rather than putting up impossible tariff barriers or imposing import quota restrictions, have hit upon the simple expedient of preventing money from leaving their land.

Now when the Maybecold Corp. ships over a hundred household jobs to the Sociedad Electricidad Espanola Whereismydad, the latter deposits, say, 50,000 pesetas in payment with the Central Bank, which is government-controlled.

The Central Bank is supposed to buy dollars with these pesetas, and send the dollars to Maybecold Corp. But the Central Bank can take its time in such matters, and it has been taking its time for a year and a half now with American manufacturers.

Of course the Spanish distributor can go to the Central Bank and get the 50,000 pesetas back, but, to tell the truth, he doesn't dare. Such action would arouse the suspicions of the government. It would be guessed that the distributor had found a bootlegger; whereupon hordes of inspectors and examiners would descend upon the establishment, preceded by the military police, and turn it upside down to find evidence that the bill had been paid.

Dollars have been bootlegged into Spain, sold at a premium, and then bootlegged out again in settlement of an account. But that's against the law. In effect, Spain has made paying a bill illegal.

Luckily, HARRY GRANARY had warned me to "declare" my money at the customs office when I entered Spain. They don't ask you how much money you have when you go to Spain. But they do when you go out. And then, unless you have been forewarned and had the amounts of ready cash, letters of credit, and travellers' cheques you possess stamped on your passport visa, that money is taken away from you upon leaving, and deposited to your credit in the Central Bank. Just try and get it out. Numbers of unforewarned travellers are caught thus at the border.

### They Can't Quit

Sad as this situation is, it's just one of the difficulties confronting Spanish distributors.

Salaries of various classes of employees are fixed by law. That runs up overhead. What's more, it's difficult to fire an employee. If he has been with the firm a year, he must be paid one month's salary upon dismissal; if two years service, two month's pay, and so on.

Even then, firing a man may visit upon an employer the gravest sort of woes. Things can happen to his business in much the same fashion as if he had offended the "big shot" of an American gang.

The labor unions have things pretty much under control, and they all gang together.

### Socialistic Republic

Nominally, Spain is a republic; but in reality it's socialistic. At the time of my visit the exact form and nature of the government was in a state of evolution. As is the case with our Spanish-speaking South American neighbors, evolution in Spanish government is akin to revolution.

Occasionally shots were fired. Frequently things were thrown, and glass was broken, and perpetually strikes were in progress.

Naturally, there is a great deal of uncertainty in the conduct of business in such a volatile, unstable land.

But in the face of all the annoyances, restrictions, fighting, and unpredictability, business men in Spain were remarkably calm and cheery.

It's a rich country, they say, and some day things will smooth out, and business will be just dandy. Spanish government has needed overhauling, Spain's lopsided internal economy has

been crying for readjustment (workers and peasants have been oppressed in the past), and now seems to be a right time to clean up and straighten up everything.

### Man of the World

If nothing else of delightful nature had happened to me in Spain—and much did—the meeting of R. FAWCETT and his lovely wife would have made the visit a memorable pleasure.

As European manager for Servel, he was in a position to give me a mass of valuable market information, tips on where and how to get further information, plus a deal of wisdom-evaluated understanding of the general situation which reporters like to call "background."

Being a rank novice at this globe-trotting business, I soon became most envious of Mr. Fawcett's urbanity and *savoir-faire*. The ease with which he handles difficult situations in foreign countries is really something to see.

For many years he represented General Electric and other American manufacturers in South America, selling heavy equipment, such as generators, motors and mining machinery. Hence, he knocks off Spanish like a grandee. He even speaks the native Catalan with Barcelona taxi drivers.

His stunning young wife, a Swiss beauty, is also a linguist; and between them they are at home in eight or more languages. They are charming people, and together we explored Barcelona every night during my stay.

### Sausage Dryers

GEORGE and ROY NOBLE, the Spanish-born English brothers who run the Cie Anglo Espanola de Electricidad, have fine offices and a big showroom at 525 Calle Cortes, Barcelona, whither Mr. Fawcett led me as soon as the Nobles were open for business next morning after my arrival.

These gentlemen are contractors, and do a big business. Among the firms they represent is Century Motors of St. Louis. They also have the Philco agency; and before the previously mentioned money trouble in Spain, did a whale of a radio business.

To these enterprising gentlemen—the fastest-moving, fastest-thinking, fastest-talking Englishmen you'll meet in many a moon of travel—refrigeration looked like a coming business, one which would probably pick up where and when radio dropped off.

At first they sold household refrigerators; but it didn't take much of that to convince 'em that this was no game for a white man. So they concentrated on Servel commercial.

Today, along with Frigidaire, they are said to lead the field in commercial sales. And they're getting into air conditioning, having made half a dozen installations of various sizes, with several more jobs "on the fire." Proudly they showed me drawings for an 160-ton job on which they are bidding.

They agree with Mr. Fawcett that air conditioning should be the best line of business they've yet tapped.

Cabinets for commercial installations are generally built on the spot in Spain. If the job is large enough, the cooling chamber is made of brick (insulated, of course, with Spanish cork). The Nobles complain that, in order to meet competition, it's necessary to quote this work at cost. Their only profit comes from the sale of the machine.

That doesn't seem right to them; and they didn't feel one whit better about it when we told them that "throwing in" the cabinet at cost with a refrigerating machine seems to be a common practice all over the world.

Perhaps the most interesting commercial application made by Servel in Spain is a number of sausage-drying installations.

Dried sausage seems to be a prized Spanish delicacy, and for decades those who cater to this demand have been putting sausages in racks, and hanging them up to dry in the wind.

Trouble with this method is that it takes weeks, especially when there's no wind! Servel cuts the processing time down to matter of days by forced convection.

Temperature is of practically no consequence in this installation; humidity control is what counts. It's purely and simply what Mr. Fawcett calls an "extraction job." So at first they experienced some difficulties in keeping the compressor running; but after a number of ingenious solutions to that problem had been tried, they finally figured out how to jack up the controls properly.

### Not Interested

Chief question ROY NOBLES wanted me to answer was: "What do you do about uninformed competition that cuts prices and extends terms to a point where nobody can make money?"

"You form an association," was the reply.

He said that they had just done that, having organized a committee of Barcelona Refrigerating Merchants, to work in conjunction with the Association of Electrical Industries and Affiliated Companies in Catalonia (Spanish province of which Barcelona is the trading center).

P. LLORENS (Brunswick) is president, M. PUIG (York) is vice president, L. M. RIFA (Frigidaire) is secretary, and I. CODINA (Crosley) and E. BAXERAS (Westinghouse) are voting members.

So far, grimaced Mr. Noble, they haven't got very far. Too suspicious of one another. No real confidence in the association idea. Mr. Fawcett, having noted through the pictures and stories in *ELECTRIC REFRIGERATION NEWS* that I had been entertained at a luncheon or banquet by every Refrigeration Association along the route of this Around-the-World trip, thought it would be a good idea to call a special meeting of the Barcelona Committee to hear me talk.

But Mr. Noble was not impressed. He scrutinized me closely for a moment, and grunted:

"What would you talk about?"

Nevertheless, he called up a few of the other members of the committee, suggesting that the editor of *ELECTRIC REFRIGERATION NEWS* would be willing to remain in Barcelona a couple of extra days for a special meeting.

They weren't impressed either.

From Mr. Rifa, however, we obtained a list of the members, and the Articles of Agreement thus far approved. These follow:

In order to improve business, the Barcelona Refrigerating Merchants have decided to fix, starting from the 1st of May 1936, the following selling terms, which must be respected, in Catalonia.

**Household Cabinets.**—The maximum easy payment terms which can be offered are 18 months in accepted drafts or monthly payments based if possible upon an equal mensual sum.

The first draft must be due, at the latest, 30 days after the installment date of the Household Cabinet.

In an instalment sale the client must pay a minimum of 15% of the value of the Household Cabinet on delivery of same. Likewise he must include in his account the expenses of clearing and settling the drafts.

On easy payment sales of 18 months 12% will be charged on the total sum of the transaction less cash payment.

On 12-month sales the surcharge will be 8%.

On 9-month sales the surcharge will be 6%.

On 6-month sales the surcharge will be 4%.

To wholesale middlemen a maximum discount of 25% will be allowed. The discount for the resellers of one or a small number of Household Cabinets will be 20%.

In the case of an exclusive dealer the discount may be increased to 30%.

Under no consideration whatsoever (Concluded on Page 9, Column 1)

There are automobile manufacturers who will spend as much as \$1,500.00 to make a car—then put a 6-cent lock on the door!

It is reliably stated that nearly a third of one low-priced car manufacturer's 1934 production was stolen—because the lock was so poor a hair-pin could open it.

Manufacturers of electrical refrigerators—take heed! Don't spend a lot of money in design and improvement, then apply a finish so temporary and soft a hair-pin will scratch it!

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- BLAST HEATING SURFACE
- CATALOGS ON REQUEST

McCORD RADIATOR & MFG. CO.  
DETROIT, MICH.



# Around the World

With George F. Taubeneck

(Concluded from Page 8, Column 5) shall a larger discount than 10% be conceded to the public for prompt payment, cash payments, etc.

**Commercial Refrigeration.** — For commercial installations the maximum time payment which can be allowed is 18 months in accepted drafts, and the first due date is payable, at the latest, 30 days after the installation has commenced to function.

Whenever possible the payments should be for the same amount.

In order to qualify for 18 monthly easy payment terms, the client must make a first cash payment equal to 25% of the installation when the latter functions, or otherwise an acceptance for the referred amount, payable at 90 days sight, on signing the contract.

The interest chargeable will be the same as that ruling for the Household Cabinets.

On the estimates presented, including those based on cash payments, no reduction exceeding 10% will be allowed on the budget price.

It is understood that the budgets presented in payment form, which do not state payment terms, shall be paid in cash at 90 days sight as a maximum time limit after the installation is working. In normal cases, when granting easy payment terms for the offers put forward, the interest will be charged on the prices of the referred estimates or offers, and it is understood that it will not be taken as included in the budget price.

Every fortnight business men engaged in the refrigerating trade will hold a meeting in order that they may become better acquainted personally. The referred meetings, conferences, or "heart-to-heart" talks, should enable them to eliminate or neutralize the influence caused by the competition resulting from the exaggerated offers which come from both clients and the salesmen. In the course of these meetings, due advantage would be taken of the opportunity to investigate cases in which previous agreements had not been strictly observed, and also to hear the explanations of alleged transgressors.

The associates undertake to impose serious rules to which their employees and salesmen will rigidly adhere, and will forbid their employees and salesmen to make undesirable or untruthful comments regarding competition.

Members of the association include: Anglo Espanola de Electricidad—Cortes, 525—Servel.

Anonima Rifa Anglada—Paseo de Gracia, 21-23—Frigidaire.

Auto Electricidad—Diputacion, 234—Brunswick.

M. Ribalta—Diputacion, 258—Norge. Refrigeracion S.A. — Consejo de Ciento, 471—York.

Suministros Electricos—Fontanella, 14—Westinghouse.

Hispano Nanuk—Rocafort, 98-100—Nanuck (Spanish).

Novitas Bori—Corcega, 196—Baker. Bastos y C<sup>a</sup>.—Clarís, 19—Ate (German).

Vivo, Vidal y Balasch—Cortes, 589—Stewart-Warner.

Hans T. Moiler—Cortes, 435—Sabroe (Danish).

Sr. Dn. Jaime Marinell. 10—Creu, 63 (Badalona) Marinello (Spanish).

Erebus S.A.—Av. Maristany, 27—Ice-O-Matic.

Oyarzun y C<sup>a</sup>.—Rbla. de Cataluna, 81—Kelvinator.

Electro-Lux—Rbla. de Cataluna, 75—Electrolux (Swedish).

Siemens Ind. Electrica—Via Layetana, 47—Protos (German).

I. Codina—Napoles, 190—Crosley. S.I.C.E.—Paseo de Gracia, 29—General Electric.

E. Clapes—Mendez Nunez, 18—Jay (Spanish).

Aniceto Negre—Calabria, 106—Negre (Spanish).

Luis Christensen—Manso, 52—Crhistensen (Spanish).

Federico Streich—Via Layetana, 21—Borsig (German).

Equipos Bosch—Mallorca, 281—Bosch (German).

Jose Petit—Rbla. de Cataluna, 96—Sanitary.

• • •

## Et Tu, Bullfighters?

Mr. Rifa we found to be a fine gentleman, indeed, and a reader of and booster for ELECTRIC REFRIGERATION NEWS from 'way back.

"It's the only publication I know of that's really helpful in this business," he declares. "The Frigidaire factory men say the same thing, too. We take two subscriptions."

Although Saturday afternoons seem

to be sacred in Spain, Mr. Rifa graciously took the rest of the day to show us around and confab.

Next day he suggested we go to the regular Sunday afternoon bull fights at the Barcelona arena. He had once taken President E. G. BIECHLER to a bull fight, he said, and Mr. Biechler seemed to get a big kick out of the proceedings.

Sunday afternoon came, cloudy and dreary, which seemed to fit in with the general atmosphere. (When you can't even get a cuppa cawfee or a sandwich because of a strike, things don't seem so sunny.)

Mr. Rifa arrived in a cab, and we went out to the huge amphitheater where the bullfights are staged. But no fights—called off on account of inclement weather, they said.

We took a few pictures of the ring, and snapped an authentically costumed *matador* when he arrived in state in a rubber-tired hack. After that Mr. Rifa took us to a soccer football game as a consolation measure. But what had been our one chance to see a bull fight had passed.

Next day we learned that the threatening weather was simply a dodge. Bullfighters Local No. 22 had called a *strike*, in sympathy with their comrades in Madrid, who were protesting in the same manner over the employment of bullfighters from Mexico.

Life has been just one strike after another on this trip. But this one, we thought, was funnier even than the taxi drivers in Bombay who were striking for less pay.

## Spain by the Ears

Mr. Rifa comes from a distinguished family, which operates cotton mills, a lamp works, a radio broadcasting station, and controls considerable property.

But the Frigidaire business is all his own. Anonima Rifa Anglada occupies extensive quarters at Paseo de Gracia, 23, and maintains a highly modernistic showroom at Paseo de Gracia, 21, Barcelona. Also there's a branch at Madrid.

All told Anonima Anglada has 86 employees, 21 of whom are specialty salesmen working the Barcelona territory.

Starting out as a Barcelona dealer for Frigidaire in 1929, Mr. Rifa became "distribudora" for Spain in 1933. During that time his organization has sold more than 4,000 Frigidaires, of which about 40% have been for commercial installations.

Last year Anonima Rifa Anglada sold 1,219 Frigidaires in Spain. According to Mr. Rifa's figures, he gets more than half of the total refrigeration business in Spain.

This comes as a result of defying the that-may-be-all-right-somewhere-else-but-it-won't-work-here theory. For example: Mr. Rifa's salesmen *canvass* for prospects and business—something which practically everyone says won't work in Europe.

Moreover, Frigidaire in Spain follows the regular formula: dealers, subdealers, salesmen, supervisors, divisional managers, quotas, conventions, sales contests, direct mail, and regimented enthusiasm. It all sounded like Old Home Week to us, and we almost broke down and cried from sheer nostalgia.

Salesmen work on a commission basis, getting from 6% to 12%, according to a complex, cumulative system. Dealers get 30, 25, and 20%; and "spotters" receive 10% commission.

In his office Mr. Rifa has a map of Spain dotted with thumb tacks representing dealerships. Every huddle of masonry in the country appears to be covered.

Among the interesting facts he reported was that he does a nice business in Gibraltar—one romantic spot we've missed on this trip. And he confirmed the report of PHIL COPELIN, Frigidaire regional manager for Spain and the Near East (whom we met in Port Said) that Algiers is a red-hot market for air conditioning—the very best of any Mediterranean country, and probably one of the best in the world.

## Senora De Kelvinator

Head of the Kelvinator organization in Barcelona is a woman, Senora MERCEDES FIOL COLOMER.

Senora Colomer speaks no English, nor I any Spanish. So we could do little but smile at each other. She is most gracious; and, judging from the tone of a couple of telephone conversations, must be efficient and competent in any man's league.

Her showroom and office were spotless, and neatly arranged. Toledo scales also were on the floor.

Others around town assured us that a woman running a business in Spain is as rarely found as a Protestant church.

Nevertheless, Senora Colomer has been running the Madrid branch (her title is Apoderada de la Sewrsal de Barcelona) of the Spanish Kelvinator distributorship for five years.

This distributorship, R. Oyarzun y Cia (S. en C.), has headquarters in Madrid, with other branches in Bilbao, Valencia, Sevilla, and Lisboa. Senor ALVARO ALVEREZ is director of the Madrid office, and Senor ROMAN OYARZUN Y OYARZUN is the owner. Madrid address is Paseo Imperial 10, Edifinio Propio.

Kelvinator and General Electric are the only American refrigerating machines distributed in Spain through concerns with headquarters in Madrid. The rest all work out of Barcelona.

General Electric's agency is the Sociedad Iberica de Construcciones Espanolas, Calle Zurbano No. 14, Madrid. Senor P. GONZALEZ-BUENO is the general manager, and Senor MELENDREAS is manager of the refrigeration department.

I. CODINA, Crosley distributor, was just about the "hottest thing in town" last year. He came into the market with a bang, having imported five hundred refrigerators as a starter.

His competitors smiled, shook their heads, and said: "Well, one is born every minute."

But he sold these 500 Crosleys so fast it made his competitors' heads swim, and ordered more. "Crosley is our toughest competition," admits Frigidaire's Senor Rifa. At present, however, Senor Codina is stymied by the currency control, like many another.

ANGEL VIVO is "director gerente" (general manager) of Vivo, Vidal y Balasch, S.L., Cortes, 589, Barcelona—distributor for Stewart-Warner refrigerators and radios.

This is a big concern, dealing in engineering and industrial supplies, wire and cable, paints and insulations, with branches in Bilbao, Madrid, and Valencia. Senor Vivo took us for an inspection tour of the Barcelona establishment and it really covers a lot of floor space.

"Stewart-Warner makes an excellent refrigerator," said Senor Vivo. "We have only praise for the product and the organization. But the present policy of the Spanish government in regard to currency payments abroad is going to make it difficult to maintain the relationship."

"At present we have on deposit some \$35,000 credited to the account of the Stewart-Warner Corp., but unfortunately they have been unable to collect a penny of it. So they don't feel constrained to ship us any more goods until those circumstances are changed, nor do I blame them."

He then showed us a really handsome refrigerator, resembling somewhat a cross between a Kelvinator and a Norge, externally. It was the Jay refrigerator, manufactured in Bilbao, Spain.

A 6.3 cu. ft. Jay refrigerator retails for 1,500 pesetas, as compared to 1,850 pesetas for a 4.5 cu. ft. Stewart-Warner.

Senor Viva indicated that he had no great confidence as yet in the performance of the Jay, and that he would much prefer to sell the Stewart-Warner, which he knows from experience won't give him troubles.

But then, he shrugs, what can one do?

He is also selling the Fretfort ice refrigerator, made in Barcelona. This, too, is a handsome box. Apparently the Spaniards know how to design and build cabinets.

Vivo, Vidal y Balasch, S. L., manufactures its own radio cabinets, into which the Stewart-Warner chassis is installed.

## Loyal Confidence

In full accord with Senors Rifa and Vivo that Spain is a country with a great future, despite present difficulties and inconveniences, is P. LLORENS GISPERT, director gerente de Auto Electricidad, S.A., Diputacion, 234, Spanish distributor for Carrier.

It's a rich country, he says, and is a potentially productive market for technical development.

"Spain needed reformation badly," he avers. "When all of our current difficulties smooth out, it's bound to be a fine country in which to live. So we business men find it easy to accept current maladjustments philosophically."

Thus far Auto Electricidad has installed two air-conditioning jobs in Spain, one in a cinema (motion picture theater) and another in a restaurant.

"We can't touch a lot of potential business," Senor Gispert states, "because Carrier is so very strict. Everything must be installed just right. We agree with that policy, for we know that in the long run that will build good will and a sound, permanent business for us in the future."

Auto Electricidad also has household refrigerators for sale. In cabinets of its own manufacture Westinghouse units have been installed. Kellogg machines are to be tried out in these cabinets later this year. A 4-cu. ft. job sells for 1,900 pesetas.

Long terms bother Senor Gispert. People with the least capital, he complains, grant the most extended terms.

Outside of Frigidaire, which utilizes the facilities of General Motors Acceptance Corp., Spanish distributors have to finance time payments themselves, through their none-too-willing banks. Financing companies do not operate in Spain.

# These NEW Evaporators for 1937

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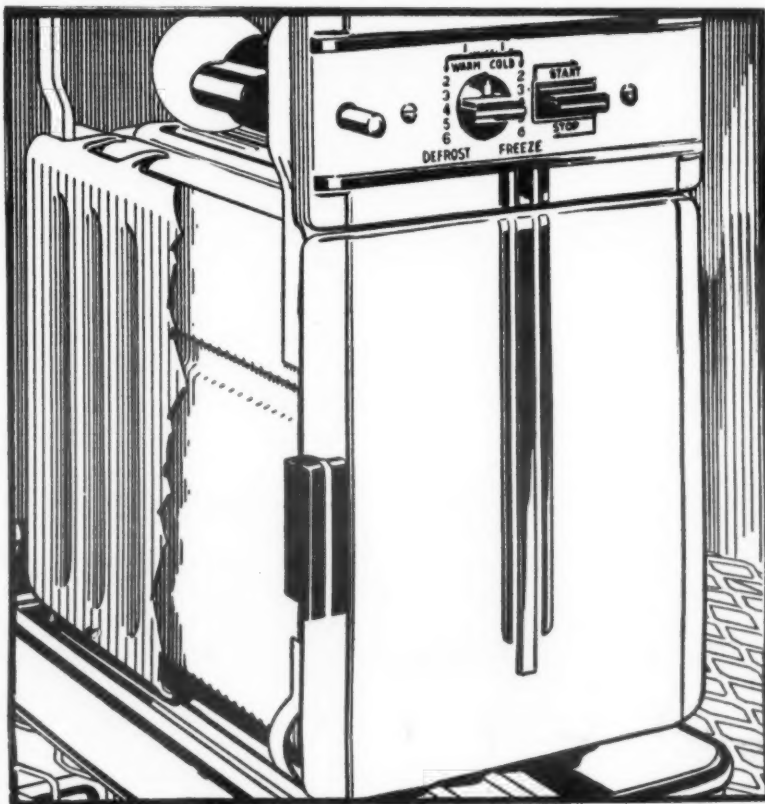
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Evaporators "by Universal Cooler" have many mechanical and sales advantages. . . . Get the facts on why you should use these in your 1937 Household Refrigerator Program. . . . Condensing Units and Compressors built to high Universal Cooler Standards will meet your most rigid specifications.

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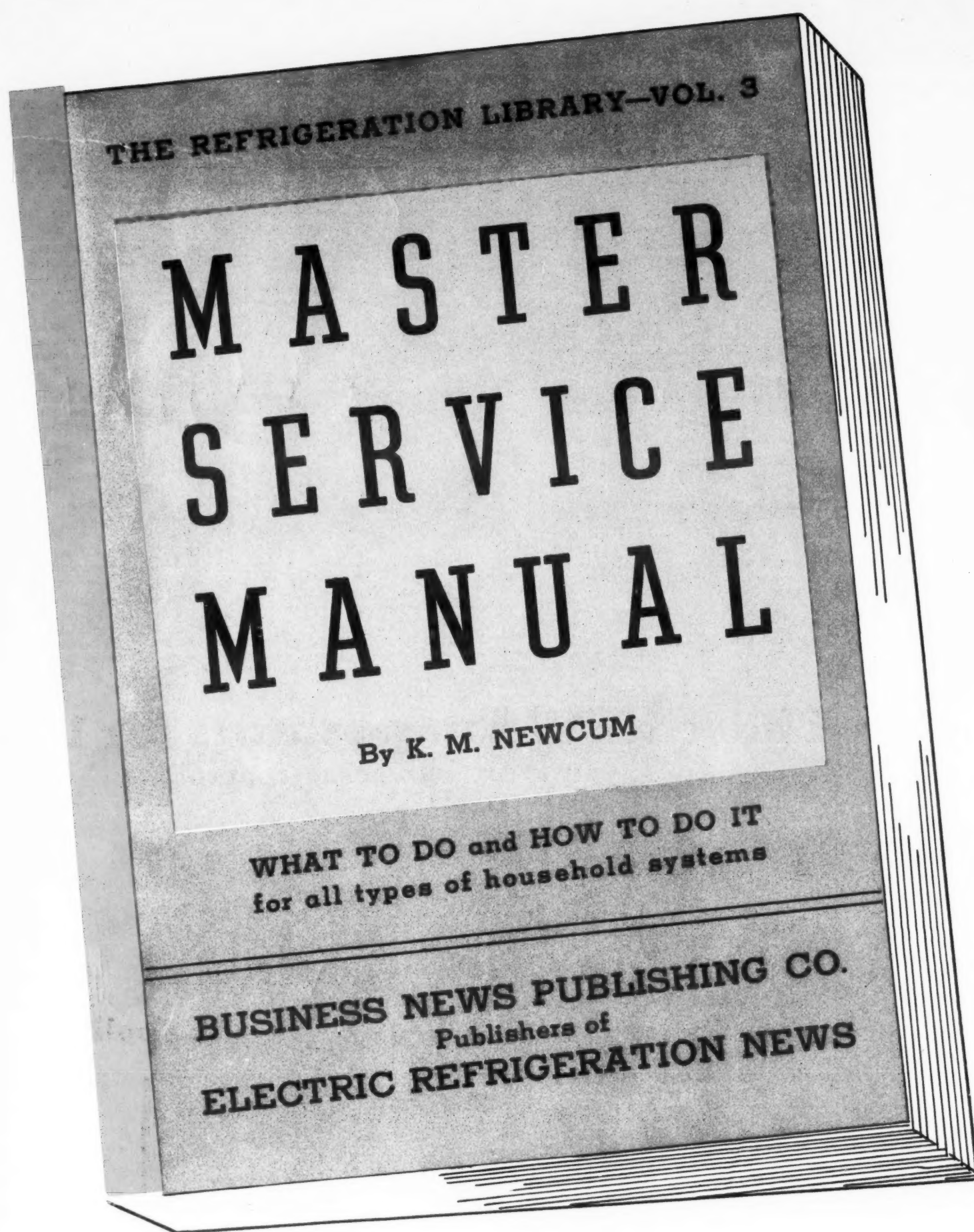
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DETROIT, MICHIGAN

and in Canada Brantford, Ont.

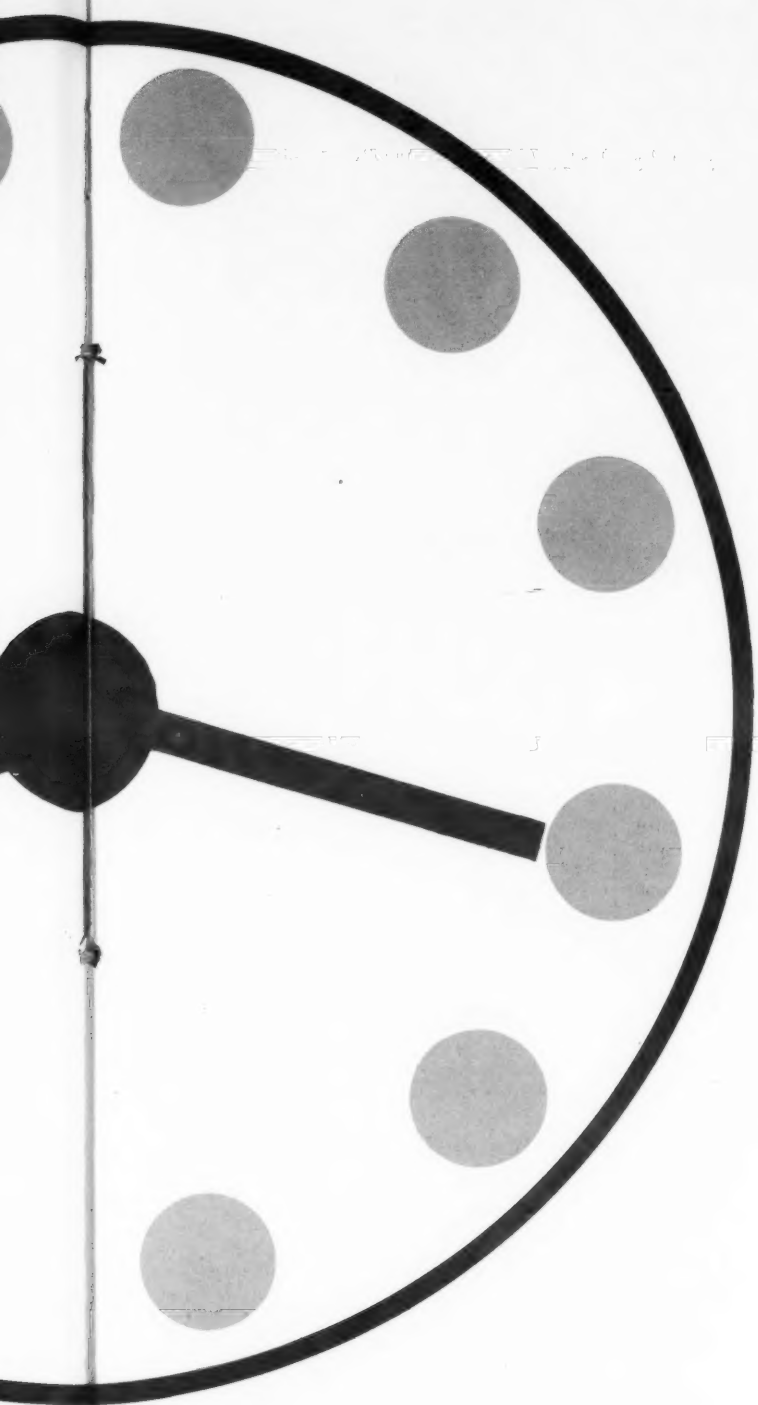




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**WASTE TIME  
WASTING**



**R SERVICE MANUAL  
ATIONS BOOK**



## AIR CONDITIONING AND REFRIGERATION NEWS

Established 1926, Registered U. S. Patent Office as Electric Refrigeration News. Published Every Wednesday by BUSINESS NEWS PUBLISHING CO. 5229 Cass Ave., Detroit, Mich. Telephone Columbia 4242. Cable Address: Cockrell-Detroit

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## What's in a Name

WHEN Electric Refrigeration News was founded 10 years ago, its format was an innovation in trade paper publishing, for it was a tabloid newspaper, rather than the customary magazine. Two very good reasons helped induce the publisher to adopt this style of makeup: first, a tabloid newspaper is exceedingly easy to read; and second, electric refrigeration was an active industry, replete with rumors, chock full of news.

Readers liked the style and size of the new paper, liked the facility with which they found in it features they were seeking, and said so. Soon trade papers in other fields began adopting the tabloid newspaper format, and a new trend in business publications was on its way.

With the new style in makeup came a new approach to the problem of interpreting an industry to readers. Rather than an adviser, the NEWS considered itself a reporter. Readers were not told how to run their business; the NEWS heard no call to play the part of Moses to the well established business firms and big corporations which so largely composed the refrigeration industry. The function of the NEWS was to report the facts, and thus assist readers to make their own judgments and decisions.

## Functions of the News Increase

After several years of unremitting attention to the news of a growing young industry, it began to appear that the functions and scope of the NEWS were widening. Technical information for engineers and service men was being published in greater abundance. News of commercial and industrial refrigeration was looming larger in the picture; and the experiments which the refrigeration industry was making with air conditioning were being reported in detail.

More and more, the NEWS was becoming a paper for the entire refrigeration industry, in all its branches and ramifications.

Recognizing this development—plus the undeniable fact that readers everywhere had fallen into the habit of calling the paper "Refrigeration News"—these latter two words of the title were run in large type while the word, "Electric," much smaller and subdued, was printed just above the large banner heading.

With the current issue another change—indicative of further evolution in the editorial service and advertising appeal of the paper—has been made in the banner. The words "Air Conditioning and" have supplanted "Electric." "Refrigeration News" remains the dominant title of the paper, printed in large type running the full width of the page. As a matter of fact, a casual reader might not even notice the change, were it not called to his attention.

"Refrigeration News" is kept in large type on the front page because it has been under that name that this publication has won its large following of readers, and because the refrigeration industry will no doubt long continue to be the source for the bulk of the information which appears in this paper. The addition of the words "Air Conditioning" simply means that the NEWS will enlarge the scope of its news coverage. It is more or less formal recognition of the fact that air conditioning has been getting more and more of the editorial spotlight in the NEWS during the last couple of years.

## Electric Refrigeration Not to Be Neglected

Readers are not to infer that less attention will be paid to electric refrigeration in the future. The same complete coverage of this active field will be continued as heretofore. But this material will be augmented by fuller reporting of events and developments in commercial and industrial refrigeration, and by even more emphasis on air conditioning. It is this latter phase of the industry which gives promise of supplying the real news in coming years.

The words, "phase of the industry," applied to air conditioning are used advisedly. Along with numerous people in the industry, the NEWS has become accustomed to saying "the refrigeration and air-conditioning industry," and to thinking of these two contributions to better living as having a very close relationship.

## Trend Toward Unified Industry

Sticklers may prefer to consider air conditioning and refrigeration as separate industries, reasoning that not all members of the refrigeration industry have a stake in air conditioning, and that a portion of so-called "air-conditioning" installations are sold without refrigeration equipment. But there are reasons to believe that practically all subscribers are vitally interested in both. The two lines of equipment have so many points of contact—in production, servicing, and merchandising—that for practical purposes they may well be considered one industry.

Already this trend toward unity, or at least close relationship, has been recognized by the publication of the "1935 Refrigeration and Air Conditioning Directory," and the "1935 Refrigeration and Air Conditioning Market Data Book."

For some time manufacturers of parts have been directing their advertising in the NEWS "to the refrigeration and air-conditioning industry." Editorial material on air conditioning has been assuming steadily a larger portion of the pages of the NEWS. So revising the masthead of the paper is simply a logical step in the evolution of the publication as it keeps pace with the progress of the subscribers it serves.

It is altogether possible that, in the course of future events, it may be deemed advisable to set the words "Air Conditioning" on the front page in larger and more impressive type. In any event, the NEWS will continue to report the facts as it finds them, and interpret the trends as it sees them.

## Letters

### The News Is Nobody's House Organ

4115 Buell Drive  
Ft. Wayne, Ind.  
Sept. 12, 1936

Publisher:

It has been my custom when I have read what I consider to be a good editorial in your paper to smile with satisfaction and let it go at that. Also when I read one that I do not like I let you know about it.

I am going to reverse the procedure this time and give you my hearty approval of your policy as expressed in your editorial in the Sept. 9th edition of the NEWS.

We are beset on all sides by selling organizations that will go to any length to tear down any opposition that they may encounter regardless of the consequences to the public as a whole.

If you do not think this is so witness the cigarette and liquor advertisements.

Personally I do not have any use what-so-ever for a man or organization that will try to suppress the real facts of an issue and try to capitalize on misrepresentations to gain their own selfish ends.

My support will always go out to a man who is guided by principles and a sense of fair play even though I may not always agree with him.

In conclusion, I have been a subscriber to your paper for approximately six years and I have never had the feeling that I was reading a "house organ." More power to you.

J. K. MARQUARDT

### Please Address Mail to 5229 Cass Ave.

Wells & Wade, Inc.  
Wholesale and Retail  
Hardware—Orchard Supplies  
Plumbing—Heating—Sheet Metal  
Wenatchee, Wash.  
Aug. 22, 1936.

Gentlemen:

On Aug. 12 we sent you 40¢ in postage and asked that you send us four copies of the July 22 issue of ELECTRIC REFRIGERATION NEWS.

Today we are in receipt of four copies of a newspaper, "The Detroit News," of July 22, which evidently were sent to us in response to our letter.

We wish to advise this is not what we want and are enclosing the top of the publication ELECTRIC REFRIGERATION NEWS so you can see what we mean. We assumed it was published by you, as it seemed to be the only address given.

Will you kindly send us four copies of the July 22 issue of this paper or advise us if we are in error in sending to you for them.

C. G. SLICK, Treas.

Answer: Apparently the Detroit News got your 40¢. This daily newspaper is an old established institution and it is quite likely to get the preference in the case of mail which is not correctly addressed.

Most any letter which carries the words "Refrigeration News" will be delivered to us, but the postoffice people sometimes make mistakes in the case of mail addressed to "Business News," if the street number is omitted.

Some years ago the Burroughs Adding Machine Co. of Detroit issued a house magazine called "Business." There is a concern in Detroit by the name of "Business Men's Print Shop." There is also a "Business Publishers International Corp." with an office in the General Motors Bldg., "Business Week Magazine" has a branch office here and there are several other companies listed in the telephone directory having names started with the word "Business."

Several years ago the present Kelvinator Corp. was known as the "Electric Refrigeration Corp." and we often receive mail intended for that company.

Readers are advised to use the street address, 5229 Cass Ave., to ensure prompt delivery of mail to us.

### Seeks Air Conditioning Names & Specifications

Parker Refrigeration Co.  
1215 Grand Ave., Kansas City, Mo.  
Refrigerators—Delivered—Installed  
Serviced—Guaranteed

Sometime during the season one of your issues of the NEWS contained a list, and I believe specifications, of Air Conditioners. Would it be possible for us to secure a copy of that issue as ours has become misplaced.

We want to get in touch with some manufacturers of air-conditioning units and figure possibly this was the best way.

P. P. PARKER,  
General Mgr.

Answer: Yes. July 29 issue.

## Believes Every Appliance Dealer Should Subscribe

Payne Motor Sales Co., Inc.  
Diamond T Trucks  
Automobiles and Supplies  
Danville, Va.  
Sept. 5, 1936.

Editor:

Please enter our subscription to ELECTRIC REFRIGERATION NEWS for a period of one year.

We feel that your publication is one that every appliance dealer should subscribe to. Nothing in the way of a publication, that we know of, begins to give the dealer in refrigeration, the information contained in your "News-paper of the Industry."

A. O. STEIN,  
Sales Mgr. of Appl. Dept.

## Literal French Is Not Technical

Andre Delalande  
Engineer, I.E.G.  
114 Rue Corbet, Tunis  
July 20, 1936.

Gentlemen:

I have read in the June 24 issue of your paper, page 12, under the heading "Technical Information Needed in France" a particularly interesting article.

I am an engineer who has specialized in refrigeration for the past seven years. I have been successively: Engineer in Chief of the Societe Algerienne de Refrigeration (Frigidaire) in Algeria and technical director of Kelvinator in Tunis where I still am located. I have done all my studying in France and am in a good position to judge that Mr. Taubeneck is correct in his opinion.

There actually does not exist in France any technical manual of use to engineers or technicians in refrigeration.

There are a very few publications on refrigeration, but these are usually written for the manufacturers of refrigeration equipment rather than for those wishing to install or service it.

Also the technicians really competent in servicing are those who have the advantage of being able to get information from American sources, particularly from: The A.S.H.V.E. guide, The A.S.R.E. Data Book, ELECTRIC REFRIGERATION NEWS, and technical information given by American manufacturers such as Kelvinator, Frigidaire, General Electric, etc.

In my library I have some American and French books on this subject, notably:

"Principles of Refrigeration" by W. H. Motz.

"Air Conditioning and Engineering" put out by The American Blower Corp.

I receive periodically: Refrigeration Data Book of the A.S.R.E. and the A.S.H.V.E. Guide, as well as the publications of these societies: "Refrigerating Engineering" and "Heating, Piping and Air Conditioning."

I have some books of Monvoisin and of Marais, and I subscribe to the "Revue Francaise du Froid."

I can assure you that for practical needs, I consult only American works, and that I have never found that French books give as much information or that they are as accurate or as trustworthy.

For the last seven or eight years that American engineering material has been diffused throughout French speaking countries: France and all her colonies (Algeria, Tunis, Morocco, Madagascar, etc.), Belgium, Switzerland, Syria, Lebanon, Egypt, and a part of Africa and Asia, etc., where there are a large number of people who are directly concerned with the refrigeration business and who do not have a sufficient knowledge of the English language to be able to read the special books filled with technical terms, which cannot be understood without a great deal of training.

A few years ago I intended to make a formulary in French which would really be a practical book for the use of engineers and technicians, and for the use of students in France at the present time.

This is an important work, but my leisure time has not been sufficient to allow me to put this idea into execution—the work of translating would require much less time.

Your idea of translating your MASTER SERVICE MANUAL into French is, I believe, an excellent one and would render a great service to my countrymen, but it would be necessary that American technical words be translated by corresponding technical words in French. For American translations which have been made so far (letters, extracts from reviews, etc.) are incomprehensible because the technical words do not correspond, thus:

American text	Literal translation	Technical translation
Service valve	Valve de service	Vanne d'arret
Pressure drop	Chute de pression	Perte de charge
Trap	Trappe	Siphon
Crank shaft	Arbre coudé	Vilebrequin

One can cite endless examples of terms which cannot be found in any technical dictionary, refrigeration being a very young science. Moreover, technical dictionaries give a choice between many words—only a French technician who has specialized in refrigeration for a long time is able to choose the right word.

Finally, it is necessary to transform into metrical units the American units, and sometimes even to use both systems (metric system and American system) for certain French technicians use the American system of measurement for American equipment. For example an engineer for Kelvinator or Frigidaire never speaks of pressure as Kg. par cm<sup>2</sup>, but in pounds of pressure or inches of vacuum. At the same time a French technician accustomed to installations with French equipment will speak only in such terms as Kg. par Cm<sup>2</sup>.

I should like very much to help you in your translation.

ANDRE DELALANDE

## Specifications Book Ready This Week

Scranton Norge Service  
1415 Ash St.  
Scranton, Pa.

About three months ago I received an offer through the mails of one year's subscription to the NEWS and a copy of the Specifications Book both for \$5.00.

A check was sent for the \$5.00 and it was used by you, but so far I have not received the book you offered.

Will you please look into this matter and send the book by return mail?

Please put our name on the list to receive catalogues from manufacturers.

S. A. HEMMERLY

Answer: Orders for the Specifications Book will be filled this week. We have been embarrassed by the delay in completing this work, but when you get this 512 page volume of data, we feel sure that you will be well pleased with it.

## The News Interests California Users

California Refrigerator Co.  
Refrigeration & Air-Conditioning  
Equipments, Parts, Supplies and  
Accessories  
1077 Mission St., San Francisco, Calif.  
Sept. 5, 1936.

Editor:

We congratulate you on your 10th birthday, on Wednesday, Sept. 9. You know, as per our letter you ran in the NEWS a few weeks ago, it was also California's birthday, and the attached press clipping of the Admission Day celebration in Oakland, as well as the 86th annual State Fair at Sacramento, shows in a small way how we in California celebrated your birthday.

I celebrated your birthday (and California's Admission Day) by attending an inter-city meeting of the Rotary Clubs of Vallejo, Napa, St. Helena, Calistoga, Santa Rosa, and Petaluma at St. Helena, where this big meeting was held.

Grateful we should be that we are in this fast growing industry of refrigeration and air conditioning. It is the most interesting business, and really we are doing any firm or family a great favor when we influence or assist them in new or enlarged refrigeration. More power to you and your most interesting and useful publication. We notice that owners of refrigeration who might call at our store to be guided towards a service man or retail dealer are quite interested in the display of the ELECTRIC REFRIGERATION NEWS.

Only a few days ago, a mechanic from northern California came in to see about a rubber tray. He became interested in the display of the ELECTRIC REFRIGERATION NEWS and purchased two copies of the NEWS; one of the complete 1936 household specifications of all makes of refrigerators and the similar edition of the NEWS regarding commercial refrigeration, and stated that he was going to mail in an order for the MASTER SERVICE MANUAL. He is not a refrigeration mechanic.

Again congratulating you on your 10th birthday!

CLARENCE F. (SANDY) PRATT, Pres.

## Never Misses

O. F. Stuefer, Inc.  
Distributors General Electric  
Sixth and Minnesota, St. Paul, Minn.  
Aug. 27, 1936.

Editor:

I am sending with this letter \$3.00 for one year's subscription to REFRIGERATION NEWS.

We read each issue with great interest and do not wish to miss a single issue. Therefore, send us the first issue on this subscription dated Aug. 28.

J. HICK.



# 47 CITIES REPORT ON AIR-CONDITIONING INSTALLATIONS

## Sales Reported According to Business Classifications by Utility Companies

### Chicago, Ill.

Classification	Prior to 1935 No. Jobs	1935 No. Hp.	First 6 Mos., 1936 No. Hp.	Total to July 1, 1936 No. Hp.
Banks	8	1,252.5	0	0
Brokers & Exchanges	9	773	0	0
Beauty Shops	5	67.75	7	45.25
Churches	3	160	1	7
Civic Buildings	1	116.5	0	0
Clubs	4	359	0	0
Dance Halls	4	465	0	0
Doctors & Dentists	4	3.5	11	7.75
Drug Companies	7	160.25	14	134.25
Hospitals	7	41.5	7	49.75
Hotels	22	3,406	2	148
Industrial				
Bakery	18	303	1	1.5
Candy	24	3,500	5	233.25
Printing	19	2,100.5	5	145
Miscellaneous	19	1,141	9	119.5
General Offices & Bldgs.	52	6,317	31	698.75
Private Offices	110	267	61	76.25
Residences	45	99.5	24	26.25
Restaurants	92	2,609.5	51	1,098.25
Stores				
Candy	8	22.5	8	13.5
Clothing, Dept.	12	1,401	16	449.5
Fur	5	21.5	3	13.5
Shoes	7	73.5	8	55.5
Food	7	385.75	0	0
Miscellaneous	7	830	9	312
Studios	3	367	2	52.75
Undertakers	10	102.25	11	109
Theaters	105	17,134	31	1,665
Total	617	43,482	317	5,461

### Detroit, Mich.

Classification	Prior to 1935 No. Hp.	During 1935 No. Hp.	6 Months, 1936 No. Hp.	Total No. Hp.
Offices	46	173.5	22	142.5
Physician's Office	0	0	1	2
Dentist's Office	0	0	1	0.5
Office Buildings	2	960.0	1	250.0
Banks	3	600	1	225
Restaurants	18	498.5	10	116
Hotels	5	742	2	300
Clubs	1	60	1	120
Residences	34	80.75	14	26
Department Stores	5	3,513	3	1,715
Furniture Stores	1	12	1	260
Confectionery Stores	5	63.5	5	63
Drug Stores	5	57	1	15
Cigar Stores	1	1	1	3
Jewelry Stores	4	31	2	27
Opticians	2	2	2	12.5
Clothing Stores	3	23	3	11
Women's Apparel	8	95	3	47.5
Fur Stores	2	35	1	2
Shoe Stores	1	4	12	3
Markets	1	1	1	15
Electric Co. Sales Offices	3	39	1	20
Radio Stations	1	1.5	1	100
Theaters	17	3,715	2	65
Library	1	5	1	5
Stock Exchange	1	50	1	50
Broker's Room	1	75	1	75
Barber Shops	1	30	1	30
Beauty Shops	1	5	1	7.5
Hospitals	2	175	4	50.83
Undertaking Parlors	5	34	1	5
Research Laboratory	1	50	1	50
Engineering Laboratory	1	680	1	680
Exhibition Building	1	125	1	125
Automotive Mfg.	1	50	2	620
Roller Bearing Mfg.	1	50	1	50
Tool Manufacturing	1	10	1	5
Refrigerator Mfg.	1	3	1	10
Rubber Mfg.	1	3	1	3
Drug Manufacturing	3	635	3	25.5
Candy Manufacturing	3	13.75	1	25
Mushroom Growing	1	10	1	10
Printing & Lithographing	1	20	2	6
Motion Picture Production	1	20	1	20
Total	188	11,897.50	88	4,397.33

The above data are for compressor installations only and do not include well-water and steam-jet installations. The horsepower is that of compressors only and does not include pump and fan horsepower. Steam-driven compressors are included and also all motor-driven compressors regardless of whether they are served by The Detroit Edison Company.

### New York Edison Co. (Manhattan & Bronx)

Classification	Prior to 1935 No. Hp.	During 1935 No. Hp.	6 Months, 1936 No. Hp.	Total No. Hp.
Banks	14	2,148	7	809
Barber Shops	0	0	2	125.3
Beauty Parlors	1	9	1	3.2
Offices	143	8,895	31	285.4
Retail Stores	44	3,608	60	2,117.31
Clubs	3	74	3	13.25
Industrial	12	434	6	53.75
Office Buildings	0	0	2	370
Miscellaneous	25	1,977	9	100.7
Residences	29	93	4	10.3
Restaurants	102	4,455	65	2,302.63
Showrooms	11	78	1	12.5
Theaters	52	12,415	19	2,160
Hospitals	0	0	0	0
Dance Studios	0	0	0	0
Hotels	18	2,277	0	0
Radio Studios	5	2,085	0	0
Total	459	38,549	210	8,255.34

### Explanation

On this and the five pages following, the News presents a survey of the air-conditioning installations made in the territories of 47 public utility companies in various parts of the country. Statistics were obtained through the cooperation of the utilities' air-conditioning departments.

Thirty-eight of the reports cover installations made through the first six months of 1936. Installations in Sioux City, Iowa; Miami, Fla.; and Dallas and El Paso, Tex., however, are reported for the first eight months of the year; and in the territory of Oklahoma Gas & Electric Co., Tennessee Electric Power Co., and Union Electric Light & Power Co., St. Louis, for the first seven months.

Brooklyn Edison Co. reported installations made only to Jan. 1, 1936, and Portland, Ore., installations made during 1935 only. Detailed statistics for the territories served by Southwestern Public Service Co., Amarillo, Tex.; Public Service Co. of Colorado, Denver; Pacific Coast Electric Co., San Francisco; and Wisconsin Gas & Electric Co., Racine, were not available. Short summaries of the status of air conditioning in these territories are included in this survey.

In all other cases, however, statistics are divided into four sections: (1) installations made prior to 1935; (2) those made during 1935; (3) those made during the period reported on during 1936; and (4) total installations reported to date.

Installations are classified by type, and their number and horsepower rating shown. In the case of St. Louis, the installations are rated by kilowatt-hour load.

### Washington, D. C.

Classification	Total To Dec. 31, 1934 No. Hp.	During 1935 To Dec. 31, 1935 No. Hp.	During 1936 To July 1, 1936 No. Hp.	Total To July 1, 1936 No. Hp.
Bakeries	4	46.5	0	0
Banks	0	0	1	25.5
Barber and Beauty Shops	2	13	1	11
Bowling Alleys	1	3	1	15
Candy Mfg.	1	3	0	0
Churches	1	48	1	61
Department Stores				
(Total and Partial)	8	409.25	6	1,097
Dress Shops	1	8.5	4	49
Drug Stores	4	58	5	147.5
Exhibits and Displays	6	21.25	0	0
Five & Ten Cent Stores	3	303	3	216
Funeral Parlors	1	15	1	12.25
Fur Shops	3	28.5	2	2
Grocery Stores	1	3	0	0
Haberdasheries	1	6	1	11.5
Hospitals	2	118	1	43.5
Hotel Dining Rooms and				
Cocktail Rooms	10	711	7	122.75
Hotel Guest Rooms	1	51	1	108
Jewelry Stores	0	0	6	50.25
Leather Goods	0	0	1	23.5
Libraries	1	28	0	0
Linen Stores	0	0	1	6
Market Spaces	2	3	1	1.5
Meat Processing	1	16.5	0	0
Millinery Shops	0	0	1	8.5
Office Buildings	3	1,082.5	2	634.75
Opticians	1	2	0	0
Printing Estab.	2	90	0	0
Private Offices	17	43.25	23	111.5
Radio Studios	1	10	1	2.25
Residences	24	53.5	36	82.75
Restaurants	26	653.25	17	267.75
Shoe Stores	6	42.5	8	93.5
Theaters	5	2,032	6	531
Wine and Liquor Stores	1	2	0	0
Total	140	5,904.5	138	3,735.25
Federal Government	37	14,652.5	21	4,898.75
Total	177	20,557	159	8,634

## ANACONDA COPPER REFRIGERATOR TUBES

are Unusually

SOFT

.... Easy to bend and flare

Anaconda Copper Refrigerator Tubes have exactly the qualities you need to give the best value in installation jobs.

These quality tubes are *exceptionally soft*. They lend themselves to easy bending and may be *flared without cracking*. They are thoroughly dehydrated to free them from moisture on the inside and the ends are sealed to keep them dry. And, even though they are made of 99.9% pure copper, they are specially deoxidized to increase their corrosion-resistance.

Anaconda Copper Refrigerator Tubes are manufactured according to A.S.T.M. specification B68-33 by methods which assure *unusually bright, clean inside surfaces*. They come to you absolutely free from chips and dirt.

Anaconda Copper Refrigerator Tubes meet the leading manufacturers' specifications for tubes to be used in installation work. They are carried in stock by leading Refrigerator Parts Distributors.

## FRENCH SMALL TUBE Branch

THE AMERICAN BRASS COMPANY • General Offices: WATERBURY, CONNECTICUT



Anaconda Copper Refrigerator Tubes are wrapped in moisture-resistant paper which protects the finish of the tube.

Cutaway view of inside of tube. The inside surface is bright and clean—no dirt, no chips.





## 50 Power Delegates Visit G-E Plant

SCHENECTADY — Fifty of the world's outstanding utility executives and engineers, in the United States to attend the World Power Conference in Washington Sept. 7-12, visited the Schenectady works of the General Electric Co. Aug. 28 as part of a tour which included chief centers of technical and industrial activity east of the Mississippi.

Gerard Swope, president of General Electric, welcoming the visiting utility executives and engineers in Rice Hall, spoke of the cooperation of scientists and engineers in America and abroad, and their efforts to develop improved methods and produce products of higher quality at lower costs so that a much wider public may be served throughout the world.

In speaking of future industrial activity, he said: "Many people, especially in this country, have been seeking new devices in the belief that new products and new industries are the primary means toward increased industrial activity. I wonder whether we are not already in a new era—an era that has approached so quietly that many of us have not been aware of its coming. This era will, to a much larger extent, take advantage of the great scientific and engineering achievements of the last few decades. It will be marked by substantially decreased cost of all commodities.

"This in turn will result in progressively lower prices to the consumer. Lower prices will make it possible for more people to purchase more goods for the home, and will enable factories to buy more machinery. Thus, increased industrial activity may be attained without the creation of a single new industry."

Mr. Swope cited the efficiency of production of electricity as an example of this progress. In presenting figures showing the growing use of electricity throughout the world, he said: "Those figures are truly significant because they show throughout the world that electricity is contributing to a higher standard of living."

## WANTED: TWO-FISTED SALES MANAGER FOR AIR CONDITIONING

One of the largest manufacturers of Air Conditioning Products and Accessories requires a General Sales Manager, competent to build up and direct a nationwide sales and service organization composed of Company Branches in main cities, with selected dealers in those cities and elsewhere.

Must have good record selling mechanical merchandise through direct specialty salesmen as well as specialty dealers, and be competent to handle all parts of the job.

This is an opportunity for a top grade Executive, and others should not apply.

Give full business history. Interview will precede any inquiry of references.

Information will be held strictly confidential by president of company. Box No. 841, Electric Refrigeration News.

## Report of Air-Conditioning Installations In Metropolitan Centers by Types Of Jobs Installed

### Philadelphia Area

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
1. Residential								
Apartments	6	4	1	1	1	1.5	8	6.5
Private Homes	39	65	25	75	12	21.17	76	161.17
2. Commercial								
Banks	4	435	0	0	1	6.5	5	441.5
Clubs	1	3	0	0	1	24	2	27
Doctors' & Dentists' Offices	6	18	4	6	2	5.8	12	29.8
Funeral Parlors	5	42	2	11	4	21.3	11	74.3
Hospital Operating Rooms	1	95	0	0	0	0	1	95
Hospital Bed Rooms	3	38	0	0	0	0	3	38
Hotel Guest Rooms	0	0	0	0	1	4	1	4
Offices	43	285	13	190	25	402.5	81	877.5
Studios, Broadcasting	2	107	0	0	0	0	2	107
Utility Company Offices	3	232	2	29	0	0	5	261
Barber Shops	0	0	2	2	1	.75	3	2.75
Beauty Shops	0	0	0	0	3	53.75	3	53.75
Hotel Coffee Shops and Dining Rooms	1	16	5	177	0	0	6	193
Office Buildings	1	2,275	0	350	0	0	1	2,625
Restaurants	28	962	13	540	13	389.5	54	1,891.5
Stores, Department	2	1,768	0	0	0	0	2	1,768
Stores, Retail	22	687	18	701	22	600.6	62	1,988.6
Theaters	28	4,554	10	419	10	737.3	48	5,710.3
Auditoriums	2	563	0	0	0	0	2	563
Churches	1	6	0	0	0	0	1	6
Libraries and Museums	2	125	0	15	0	0	2	140
Schools	26	466	2	32	0	0	28	498
Miscellaneous Commercial	3	290	1	1,762	0	0	4	2,052
3. Industrial								
Bakeries	7	299	1	5	0	65.5	8	369.5
Candy Mfg.	10	1,059	6	179	2	43.5	18	1,281.5
Chemists	5	90	4	15	0	215	9	320
Leather Mfg.	2	238	0	0	0	0	2	238
Printing and Lithographing	6	87	1	184	0	0	7	271
Textile Mfg.	14	698	1	170	0	0	15	868
Tobacco Factories	8	895	0	107	1	63	9	1,065
Fruit Packing Houses	2	42	0	0	0	0	2	42
Fur Storage	0	0	2	39	1	5.5	3	44.5
Miscellaneous Industrial	7	368	7	145	2	97	16	610
<b>Total</b>	<b>291</b>	<b>16,812</b>	<b>120</b>	<b>5,154</b>	<b>102</b>	<b>2,758.17</b>	<b>513</b>	<b>24,724.17</b>

### Kansas City, Mo.

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Bakeries	1	12	2	59	1	31.5	4	102.5
Banks	1	1	2	13.5	7	125	10	139.5
Beauty Shops	3	12	2	53.75	2	30	7	95.75
Buildings	1	94	4	2,157	0	0	5	2,251
Drug Stores	2	75	3	55	2	50	7	180
General Offices	18	150	33	209.25	6	108.5	57	467.75
Hospitals	4	4.5	5	7	2	41	11	52.5
Hotels	3	135	8	322.5	2	208.5	13	666
Miscellaneous	0	0	8	93.25	1	225	9	318.25
Mortuaries	1	9	8	45	2	16.25	11	70.25
Restaurants & Night Clubs	13	229.5	22	614.5	23	279.87	58	1,123.875
Sales Rooms & Shops	10	99.25	23	768.75	14	143.5	47	1,011.5
Theaters	2	Ice	21	1,870	0	0	23	1,870
Private Offices	22	28.25	10	10	0	0	32	38.25
Residences	95	204.5	38	123.25	23	95	156	422.75
<b>Total</b>	<b>176</b>	<b>1,054</b>	<b>189</b>	<b>6,400.75</b>	<b>85</b>	<b>1,354.37</b>	<b>450</b>	<b>8,809.875</b>

### Louisville, Ky.

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Theaters	7	626	2	45	0	0	9	671
Industrial	4	306.5	1	20	4	62.5	9	389
Stores	5	123.5	16	352.25	10	169.33	31	645
Restaurants	5	86	2	38	0	0	7	124
Offices	7	14	0	0	3	23.25	10	37.25
Residences	11	33	4	1	1	3.33	16	37.33
Photo Engraver	1	15	0	0	0	0	1	15
Hotels	1	5.5	0	0	1	7.5	2	13
Hotel Restaurants	2	31	3	46.5	0	0	5	77.5
Tap Rooms	1	5	0	0	0	0	1	5
Radio Studio	1	6	0	0	0	0	1	6
Miscellaneous	5	79.5	7	210.5	2	123.5	14	413.5
<b>Total</b>	<b>50</b>	<b>1,331</b>	<b>35</b>	<b>713.25</b>	<b>21</b>	<b>389.41</b>	<b>106</b>	<b>2,433.5</b>

### Boston Area

Classification	Prior to 1935		During 1935		To June 15, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Theaters	12	3,543.5	3	80	0	0	15	3,623.5
Restaurants, Bars & Night Clubs	26	608.5	13	331.5	16	236	55	1,176
Residences	52	67	4	14.5	3	11.5	59	93
Beauty Shops & Barber Shops	4	69	1	5.5	0	0	5	74.5
Stores	8	2,788.5	10	384	20	442	38	3,614.5
Offices	20	601.66	15	214	6	70	41	885.66
Undertakers	0	0	2	13.5	1	11	3	24.5
Miscellaneous	7	106	7	349	4	432.5	18	887.5
Industrial	450 tons (number or hp. not available)							
<b>Total</b>	<b>129</b>	<b>7,784.16</b>	<b>55</b>	<b>1,392</b>	<b>50</b>	<b>1,203</b>	<b>234</b>	<b>10,379.16</b>

### Baltimore, Md.

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Barber Shops & Beauty Parlors	5	39	0	0	4	38	9	77
Drug & Confectionery Stores	6	95	13	154	2	17	21	266
Department Stores	7	888	6	540	2	316	15	1,744
Food Stores	5	20	1	16	1	0	6	33
Public Buildings	4	400	2	20	0	0	6	420
Hospitals	4	47	1	5	2	20	7	72
Industrial	9	494	2	110	2	9.5	13	613.5
Restaurants, etc.	18	310	11	309	7	141	36	760
Offices	26	220	20	302	5	210.5	51	732.5
Banks and Brokerage Houses	8	478	1	11	1	20	10	509
Residential	14	24	9	17	7	23.5	30	64.5
Specialty Shops	12	118	8	115	9	136.5	29	369.5
Theatres	21	2358	11	633	5	204	37	3195
Miscellaneous	7	90	3	168	3	18	13	276
<b>Total</b>	<b>146</b>	<b>5581</b>	<b>88</b>	<b>2400</b>	<b>49</b>	<b>1154</b>	<b>283</b>	<b>9132</b>

### St. Louis, Mo.

Classification	Prior to 1935		During 1935		7 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
<b>Personal Comfort</b>								
Residences	128	215.10	68	108.69	149	161.30	345	485.09
Offices	74	448.55	35	142.45	77	585.48	186	1176.48
Office Buildings (complete)	2	353	1	39	4	727.38	7	1119.38
<b>Total Comfort Installations</b>	<b>204</b>	<b>1016.65</b>	<b>104</b>	<b>290.14</b>	<b>230</b>	<b>1474.16</b>	<b>538</b>	<b>2780.95</b>
<b>Commercial</b>								
Banks	2	47.75	1	12.75	1	47.75	4	108.25
Beauty & Barber Shops	2	3.25	1	2.50	3	10	6	15.75
Broker's Board Rooms	3	75.75	1	39.75	3	28.84	7	144.34
Clubs	1	9	3	117	2	35.51	6	161.51
Hospitals	1	.40	..	..	3	7.40	4	7.80
Hotels, Public Spaces, and Guest Rooms	13	600.13	2	24.25	4	344.15	19	968.53
Miscellaneous	7	29.63	2	795	1	88.50	10	913.13
<b>Restaurants and Liquor</b>								
Dispensers	13	446.21	17	270.60	18	178.18	48	904.99
Retail Stores	25	625.30	25	382.40	29	1025.78	79	2033.48
Sales and Display Rooms	17	96.86	8	13.45	8	17.35	33	127.66
Theaters and Auditoriums	10	2736	5	1611	11	294.75	26	4641.75
Undertakers	3	25.50	5	84.93	3	54	11	164.43
<b>Total Commercial Installations</b>	<b>97</b>	<b>4705.78</b>	<b>70</b>	<b>3353.63</b>	<b>86</b>	<b>2132.21</b>	<b>253</b>	<b>10191.62</b>
<b>Industrial</b>								
<b>Total Industrial Installations</b>	<b>20</b>	<b>888.70</b>	<b>13</b>	<b>364.39</b>	<b>8</b>	<b>280.99</b>	<b>41</b>	<b>1534.08</b>
<b>Total Air Conditioning</b>	<b>321</b>	<b>6611.13</b>	<b>187</b>	<b>4008.16</b>	<b>324</b>	<b>3887.36</b>	<b>832</b>	<b>14506.65</b>

### Pittsburgh, Pa.

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Banks	0	0	1	500	0	0	1	500
Barber Shops	0	0	2	14	1	2.5	3	16.5
Beauty Shops	0	0	4	55.25	2	8.5	6	64
Combination Barber and Beauty Shop	0	0	1	18	0	0	1	18
Candy Stores	0	0	0	0	4	6.5	4	6.5
Dairy Stores	2	11	2	18	0	0	4	29
Department Stores	1	590	0	0	1	1,115	2	1,705
Funeral Parlors	1	7	0	0	2	10	3	17
Hotels								
Coffee Shops	0	0	3	73	4	212.5	7	285.5
Tap Rooms	1	22	1	3	4	36.5	6	61.



## Air-Conditioning Reports Show Where Installations Are Being Made

### Southern California Edison Co., Ltd.

Classification	Prior to 1935		During 1935		6 Months, 1936		Total
	No.	Hp.	No.	Hp.	No.	Hp.	No. Hp.
Banks	0	0	2	6	3	15	5 21
Clubs	0	0	0	0	1	7	1 7
Doctors & Dentists	2	3	3	6.25	0	0	5 9.25
Hospitals	0	0	3	7.5	0	0	3 7.5
Industrial							
Citrus Packing Houses	14	839	27	740	8	348.5	49 1927.5
Fur Storage	0	0	1	3	0	0	1 3
Mushroom Culture	0	0	1	15	1	70	2 85
Offices	2	26.5	7	13.25	0	0	9 39.75
Residences	0	0	6	15	5	10	11 25
Restaurants	1	7	2	3.5	6	59.5	9 70
Stores, Dept. & Retail	0	0	5	16	3	15	8 31
Theaters	1	70	0	0	4	145.5	5 215.5
Libraries & Museum	1	43	0	0	0	0	1 43
Motion Picture Studios	2	200	0	0	0	0	2 200
<b>Total</b>	<b>23</b>	<b>1188.5</b>	<b>57</b>	<b>825.5</b>	<b>31</b>	<b>670.5</b>	<b>111 2684.5</b>

### Public Service Electric & Gas Co. (Newark) Territory

Classification	Prior to 1935		During 1935		6 Months, 1936		Total
	No.	Hp.	No.	Hp.	No.	Hp.	No. Hp.
Residences	25	64.3	17	42.1	5	13.2	47 112.3
Private Offices	30	216.1	7	11.3	9	131.8	46 359.2
Restaurants	17	250.4	7	110.6	15	270.4	39 631.4
Retail Stores	18	140.2	9	182.2	23	503.0	50 825.4
Commercial Offices	0	0	6	105.6	0	0	6 105.6
Banks	4	302.7	2	172.0	3	62.0	9 536.7
Funeral Parlors	5	35.6	2	23.2	2	6.5	9 65.3
Beauty Parlors	0	0	1	10.2	2	6.0	3 16.2
Theaters	14	36.3	3	143.0	1	150.0	18 329.3
Hospitals	0	0	0	0	1	105.5	1 105.5
<b>Total</b>	<b>113</b>	<b>1045.6</b>	<b>54</b>	<b>800.2</b>	<b>61</b>	<b>1248.4</b>	<b>228 3086.9</b>

### San Joaquin Power & Light (Fresno, Calif.) Area

Classification	Prior to 1935		During 1935		6 Months, 1936		Total
	No.	Hp.	No.	Hp.	No.	Hp.	No. Hp.
Apartment Houses	1	12	0	0	0	0	1 12
Banks	1	88	0	0	0	0	1 88
Funeral Parlors	1	8.5	0	0	2	8	3 16.5
Offices	7	490	12	92.2	13	262.25	32 844.45
Residences	17	39.25	14	34.5	9	17.95	40 91.7
Restaurants	2	11	6	60.25	7	91.94	15 163.19
Retail Stores	3	3.25	2	15.7	7	34.11	12 53.06
Beauty Parlors	0	0	1	1.75	0	0	1 1.75
Hospitals	0	0	2	7.85	3	32.5	5 40.35
Recreation Centers	0	0	1	24	0	0	1 24
Theaters	0	0	4	141.5	3	180.5	7 322
Hotels	0	0	0	0	2	86	2 86
<b>Total</b>	<b>32</b>	<b>681.25</b>	<b>42</b>	<b>377.75</b>	<b>46</b>	<b>713.25</b>	<b>120 1743</b>

### San Antonio, Texas

Classification	Prior to 1935		During 1935		6 Months, 1936		Total
	No.	Hp.	No.	Hp.	No.	Hp.	No. Hp.
Theaters & Auditorium	8	2,493	2	170	0	0	10 2,663
Department Stores	3	219	5	140.75	5	557.25	13 917
Clubs, etc.	1	14	1	3.5	3	28.6	5 46.1
Restaurants, Coffee Shops and Cafeterias	6	675	1	20	1	6.5	8 701.5
Office Buildings	3	707	0	0	1	17	4 724
Individual Offices	6	9.5	7	19	2	1.5	15 30
Broadcasting Studio	1	6	0	0	0	0	1 6
Testing Laboratories	0	0	2	67.25	0	0	2 67.25
Banks	2	327	0	0	0	0	2 327
Beauty Parlors	2	21	1	6	0	0	3 27
Brokers	1	28	0	0	0	0	1 28
Hospitals	0	0	1	7	2	15	3 22
Hotels	0	0	1	532	1	9.6	2 541.6
Funeral Homes	0	0	1	13	0	0	1 13
Drug Stores	0	0	1	11	1	18	2 29
Residences	16	30	7	7	3	3.5	26 40.5
<b>Total</b>	<b>49</b>	<b>4,529.5</b>	<b>30</b>	<b>996.5</b>	<b>19</b>	<b>656.95</b>	<b>98 6,182.95</b>

### Miami, Fla.

Classification	Prior to 1935		During 1935		6 Months, 1936		Total
	No.	Hp.	No.	Hp.	No.	Hp.	No. Hp.
Apartment Houses	1	2.06	1	2.06	1	2.06	3 2.06
Theaters	3	572	2	208.75	3	200	8 980.75
Restaurants	3	79	2	9.05	1	5	6 88.05
General Offices	1	14	1	5.81	5	24.05	7 38.05
Private Offices	3	2.8	4	5.81	5	3.16	12 11.77
Department Stores	2	112.5	1	59.5	1	6.5	4 172.5
Dress Shops	2	37.85	1	2.39	1	3	4 44.35
Opticians' Offices	1	1.10	2	3.49	1	3	4 54.59
Dentists' Offices	1	1.10	2	3.49	1	3	4 54.59
Tap Rooms and Bars	2	29.5	1	6.75	1	38.13	4 74.38
Beauty Shops	1	2.20	1	2.20	1	2.20	3 6.60
Barber Shops	1	2.20	1	2.20	1	2.20	3 6.60
Operating Rooms	1	5.75	1	5.75	1	5.75	3 17.25
Shoe Stores	3	25.5	1	8.12	4	33.62	8 67.24
Showrooms	2	19.5	1	19.5	1	19.5	4 58.5
Jewelry Stores	1	2.05	1	2.05	1	2.05	3 6.10
Rest Rooms	1	2.05	1	2.05	1	2.05	3 6.10
Audition Room	1	1.55	1	1.55	1	1.55	3 4.65
Broadcasting Station	1	24.83	1	24.83	1	24.83	3 74.49
Stock Exchange	1	3.21	1	3.21	1	3.21	3 9.63
Repair Shop	1	1.52	1	1.52	1	1.52	3 4.56
5 & 10 Store	1	120	1	120	1	120	3 360
Projection Room	1	1.05	1	1.05	1	1.05	3 3.15
Drug Stores	1	41.12	1	41.12	1	41.12	3 123.36
Funeral Homes	2	16.7	1	16.7	1	16.7	4 50.1
Candy Factory	1	2.20	1	2.20	1	2.20	3 6.60
Bakery	1	5.50	1	5.50	1	5.50	3 9.0
Residences	1	1.10	8	20.58	16	22.20	25 43.88
Banks	1	25.75	2	43.88	3	69.63	6 139.26
Tailor	1	2.05	1	2.05	1	2.05	3 6.10
Court Room	1	38	1	38	1	38	3 114
Casino and Offices	1	324	1	324	1	324	3 972
Grocery Stores	1	17.5	1	17.5	1	17.5	3 52.5
Airline Office	1	2.17	1	2.17	1	2.17	3 6.51
Apparatus Room	1	8	1	8	1	8	3 24
Night Club	1	25	1	25	1	25	3 75
Hotel Pantry	1	25	1	25	1	25	3 75
Men's Shop	1	17.25	1	17.25	1	17.25	3 51.75
<b>Total</b>	<b>22</b>	<b>906.25</b>	<b>45</b>	<b>912.79</b>	<b>47</b>	<b>446.89</b>	<b>114 2,265.93</b>

\*Horsepower for 11 jobs reported. †Horsepower for 3 jobs reported ‡Horsepower for 4 jobs reported.

### Virginia Electric and Power Co. (Richmond, Va.)

Classification	Prior to 1935		During 1935		6 Months, 1936		Total
	No.	Hp.	No.	Hp.	No.	Hp.	No. Hp.
Beauty Parlors	0	0	2	16	0	0	2 16
Drug Stores	1	15	0	0	0	0	1 15
Theaters	7	1,349	9	478	7	281	23 2,108
Department Stores	3	1,055	4	831	1	250	8 2,136
Specialty Stores	4	30	14	164	17	354	35 548
Residences	15	33	11	25	2	4	28 62
Restaurants	2	60	8	87	3	28	13 175
Hospitals	2	10	3	21	1	18	6 49
Funeral Parlors	1	25	2	31	1	6	4 62
Offices	7	18	16	83	4	30	27 131
Banks	1	60	0	0	0	0	1 60
Industrial	3	585	2	53	2	10	7 648
Telephone Exchange	1	116	0	0	0	0	1 116
Billiard Parlors	0	0	1	17	0	0	1 17
Optical Manufacturer	0	0	1	12	0	0	1 12
Radio Station	0	0	0	0	1	5	1 5
<b>Total</b>	<b>47</b>	<b>3,356</b>	<b>73</b>	<b>1,818</b>	<b>39</b>	<b>986</b>	<b>159 6,160</b>

### Toledo, Ohio

Classification	Prior to 1935		During 1935		6 Months, 1936		Total
	No.	Hp.	No.	Hp.	No.	Hp.	No. Hp.
Banks	1	268	0	0	0	0	1 268
Barber Shops	0	0	1	3	0	0	1 3
Factories	2	205	3	87.5	3	120	8 412.5
Funeral Parlors	3	16	5	40	1	8	9 64
Hotels	2	87	1	80	1	17	4 184
Offices	6	9	5	65	2	86	13 160
Residences	8	13	2	4	0	0	10 17
Restaurants	0	0	2	34	7	205	9 239
Stores	0	0	4	104	7	256	11 360
Theaters	2	870	1	60	2	130	5 1,060
Miscellaneous	1	5	2	12.5	0	0	3 17.5
<b>Total</b>	<b>25</b>	<b>1,473</b>	<b>26</b>	<b>490</b>	<b>23</b>	<b>822</b>	<b>74 2,785</b>

### Spokane, Wash.

Classification	Prior to 1935		During 1935		6 Months, 1936		Total
	No.	Hp.	No.	Hp.	No.	Hp.	No. Hp.
Banks	0	0	1	22	1	13.5	2 35.5
Doctors' Offices	0	0	2	3	0	0	2 3
Offices	2	6	4	2	1	5.5	7 13.5
Utility Co. Offices	1	11	2	14	0	0	3 25
Hotel Coffee Shops	0	0	1	3	0	0	1 3
Restaurants	2	23	0	0	3	17	5 40
Retail Stores	1	133	0	0	0	0	1 133
Theaters	1	141	0	0	0	0	1 141
Fruit Packing Houses	87	1,400	9	550	0	0	96 1,950
Residential	2	5	0	0	0	0	2 5
<b>Total</b>	<b>96</b>	<b>1,719</b>	<b>19</b>	<b>594</b>	<b>5</b>	<b>36</b>	<b>120 2,349</b>

### Minneapolis, Minn.

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Restaurants .....	17	197	0	0	15	240	32	437
Theatres .....	24	383	4	70	5	125	33	578
Stores .....	24	271	6	26	9	137	39	434
Offices .....	9	9	13	215	5	389	27	613
Beauty Parlors .....	1	2	0	0	0	0	1	2
Mortuaries .....	4	16	2	9	0	0	6	25
Hotels .....	2	37	0	0	0	0	2	37
Factories .....	1	10	0	0	0	0	1	10
Churches .....	1	10	0	0	1	40	2	50
Public Bldgs. ....	1	19	1	100	0	0	2	119
Banks .....	0	0	2	16	0	0	2	16
Residences .....	45	24	7	23	0	0	52	47
R. R. Coaches .....	0	0	1	60	0	0	1	60
<b>Total</b> .....	<b>129</b>	<b>978</b>	<b>36</b>	<b>519</b>	<b>35</b>	<b>931</b>	<b>200</b>	<b>2428</b>



## The Buyer's Guide

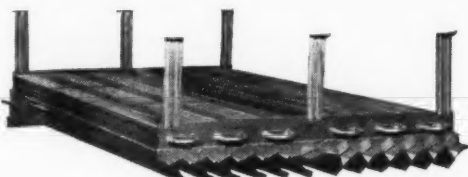
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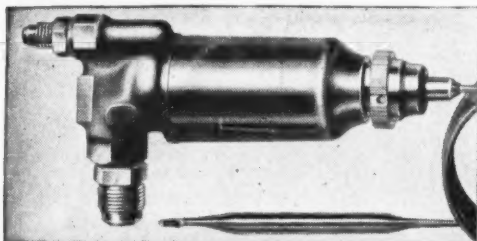
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parts and materials, service tools  
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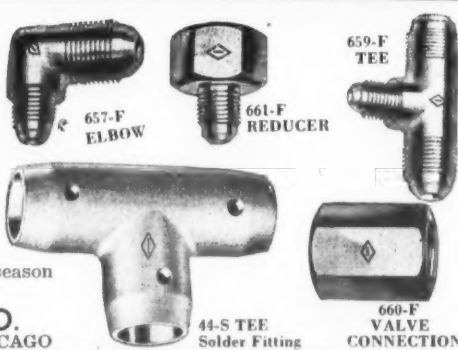
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IN this complete line, all nuts, tees,  
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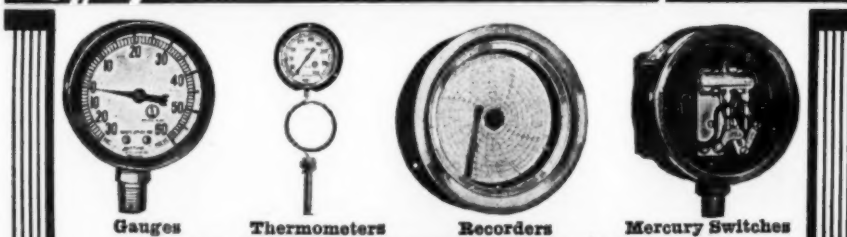
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## Questions

### Aero Products Corp.

No. 2908 (Dealer, Ohio)—"Can you  
tell me the address of the Aero Pro-  
ducts Corp.?"

"I understand that they sell a re-  
placement seal for household refrig-  
erator compressors."

Answer: Address of Aero Products  
Corp. is 220 West 42nd St., New York  
City.

### Storage Compartments

No. 2909 (Dealer, Texas)—"We would  
like to have you forward this letter  
to someone who can send us catalogs  
and prices on refrigerator storage  
compartments."

Answer: Manufacturers of house-  
hold refrigerator accessories are listed  
on pages 253 through 255 of the 1935  
REFRIGERATION AND AIR CONDITIONING  
DIRECTORY. By writing to the manu-  
facturers listed under "refrigerator  
dishes" and "wire refrigerator bas-  
kets," I believe you will find a manu-  
facturer who makes the type of con-  
tainer which you have in mind.

### New York Parts Jobber

No. 2910 (Service Man, New York)  
—"I would like to know if you can  
furnish me with a list of parts dis-  
tributing companies that are located  
in or around New York City, that  
will sell to independent servicemen."

"I have been handling minor repairs  
on refrigerators, mostly on the elec-  
trical end, all summer. I have just  
completed a four month course in  
refrigeration, and now would like to  
put refrigeration service on the same  
level with my radio business, but I  
am not familiar with parts distribu-  
tors in my territory, so I would ap-  
preciate the above mentioned list."

Answer: Parts and distributing com-  
panies in and around New York City  
include:

Aetna Supply Co.  
407 E. 152nd St., New York City  
Harry Alter Co.  
161 Grand St., New York City  
Coleman Electrical Supply Co.  
955 Third St., Brooklyn, N. Y.  
Federal Refrigerator Corp.  
57 E. 25th St., New York City  
Hoy & Co., Inc.  
39 Columbia St., Albany, N. Y.  
Melchior, Armstrong, Dessau Co.  
300 Fourth Ave., New York City  
Paramount Electrical Supply Co.  
42 Warren St., New York City  
Preferred Utilities Mfg. Corp.  
33 West 60th St., New York City

### U. S. Air Conditioning Corp.

No. 2911 (Manufacturers' Sales Re-  
presentative, Missouri)—"We would  
appreciate your furnishing us infor-  
mation as to the address and city of  
the United States Air Conditioning  
Corp."

"We would also like to have infor-  
mation on all the air conditioning  
companies that are making portable  
air conditioning units."

"We are a subscriber to ELECTRIC  
REFRIGERATION NEWS and would thank  
you to furnish us this information  
as soon as possible."

Answer: Address of the United  
States Air Conditioning Corp. is 2101  
Kennedy St., N. E., Minneapolis, Minn.

For information on air condition-  
ing companies which are making por-  
table conditioning equipment, please  
refer to the July 29 issue of ELECTRIC  
REFRIGERATION NEWS, in which were  
tabulated complete specifications of  
leading manufacturers of air condi-  
tioning equipment.

### Self-Contained Conditioner

No. 2912 (Air Conditioning Distribu-  
tor, Michigan)—"On the last page of  
your Sept. 2 issue, you list under  
item No. 8 1,404 self-contained air  
conditioners sold in July. The writer  
would greatly appreciate information  
from you regarding the total number  
of self-contained air conditioners sold  
to date or to Aug. 1 during 1936."

Answer: Sales of self-contained air  
conditioners as given in the Nema  
commercial reports for the first seven  
months of 1936 total 4,752 units.

### Electromatic Corp.

No. 2913 (Manufacturer, New York)  
—"We would very much like to get  
the address of the Electromatic Corp.  
of Chicago, whom we understand  
manufacture a pressure regulating  
device for use on refrigeration lines."

"It is very possible that our designa-  
tion of the company's name may be  
slightly incorrect, however the name  
of 'Electromatic' is in some way  
connected with the company name."

"If you have any records which will  
permit you to supply us with this  
company's proper name and address,  
we would very much appreciate it."

Answer: The name of the company  
to which you refer is the Electromatic  
Corp., and the address is 2100 Indiana  
Ave., Chicago, Ill.

## Air Conditioning Summary by Cities

### Oklahoma Gas & Electric Co. Territory

Classification	Prior to 1935		During 1935		7 Months, 1936		Total Aug. 1, 1936	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Barber Shops	0	0	1	3.1	1	5	2	8.1
Beer Parlors	0	0	1	3.53	1	2	2	5.53
Film Exchanges	0	0	0	0	2	29.5	2	29.5
Hospitals	3	9.95	0	0	2	6.5	5	16.45
Hotels	6	241	0	0	1	5	7	246
Candy Companies	0	0	0	0	2	5	2	5
Offices	10	180.55	14	37.34	8	21	32	238.89
Residences	39	83.08	21	42.14	7	22.5	67	147.72
Restaurants	10	130.7	4	68	2	35	16	233.7
Shoe Stores	0	0	0	0	1	29	1	29
Office Buildings	0	0	1	400	0	0	1	400
Music Stores	0	0	0	0	1	12	1	12
Clothing Stores	4	37.53	4	66.25	5	72	13	175.78
Jewelry Stores	0	0	2	21.45	0	0	2	21.45
Banks	1	56.5	1	25	0	0	2	81.5
Broadcasting Studio	1	3.05	1	36.66	0	0	2	39.71
Demonstration Rooms	6	14.2	1	2.1	0	0	7	16.3
Department Stores	2	9	1	105	1	3	4	117
Funeral Parlors	1	3.2	1	22	0	0	2	25.2
Laboratory	0	0	1	3.3	0	0	1	3.3
Groceries	0	0	1	8.5	0	0	1	8.5
Sales Rooms	1	1.55	0	0	0	0	1	1.55
Bakeries	1	11.5	0	0	0	0	1	11.5
Printing Companies	2	15	0	0	0	0	2	15
Industrial	1	5	0	0	0	0	1	5
Theaters	67	1,737.25	0	0	0	0	67	1,737.25
Drug Stores	1	3.2	0	0	0	0	1	3.2
Poultry House	1	9.25	0	0	0	0	1	9.25
Cigar Store	1	3	0	0	0	0	1	3
Fur Storage	1	5.2	0	0	0	0	1	5.2
Total	159	2,559.81	55	944.37	34	247.5	248	3,651.88

### Tennessee Electric Power Co. (Chattanooga) Territory

Classification	Prior to 1935		During 1935		7 Months, 1936		Total Aug. 1, 1936	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Theaters	3	745	2	108	2	123.5	7	976.5
Department Stores	1	6.5	1	26.5	2	26.5	4	59.5
Restaurants	6	105.25	5	83.5	5	57.5	16	246.25
Clubs	0	0	1	28	1	10	2	38
Residences	16	28.1	2	6	11	11.55	29	45.65
Drug Stores	0	0	0	0	2	37.5	2	37.5
Offices	10	20.75	12	56.8	4	15.5	26	93.05
Broadcasting Studios	0	0	0	0	1	15	1	15
Bank	1	10	0	0	2	43.5	3	53.5
Hotels	0	0	0	0	1	14	1	14
Beauty Parlor	0	0	2	6	1	3.25	3	9.25
Hospital	0	0	2	6.55	1	3	3	9.55
Laboratories	1	1.5	0	0	0	0	1	1.5
Candy Co.	3	55	1	16	0	0	4	71
Hardware Store	0	0	1	12.75	0	0	1	12.75
Show Room	1	30	0	0	0	0	1	30
Clothing Store	1	112	8	125.1	0	0	9	237.1
Storage	2	2	0	0	0	0	2	2
Wrapping Rooms	1	3.25	0	0	0	0	1	3.25
Grocery Store	0	0	1	10	0	0	1	10
Furrier	0	0	1	3.5	0	0	1	3.5
Shoe Store	0	0	2	11	0	0	2	11
Vault	0	0	1	.75	0	0	1	.75
Library	0	0	1	.75	0	0	1	.75
Sales Floors	0	0	1	95	12	415.75	13	510.75
Apartments	0	0	1	27	0	0	1	27
Total	46	1,119.35	45	623.2	42	776.55	133	2,519.1

### Atlanta, Ga. and Vicinity

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Offices	24	80.5	25	290	7	73.5	56	444
Restaurants	11	248	12	201	2	58	25	507
Hotels	2	3	0	0	1	4	3	7
Residences	12	33.75	15	59	4	7.5	31	100.25
Department Stores	2	668	4	691	6	1,018	12	2,377
Hospitals	2	6	1	2	0	0	3	8
Beauty Parlors	1	18	0	0	2	6	3	24
Clothing Stores	2	51	0	0	0	0	2	51
Theaters	4	1,667	5	248	3	123.25	12	2,038.25
Barber Shops	1	5	1	4	0	0	2	9
Laboratories	2	14	0	0	0	0	2	14
Undertaking Parlors	1	3.5	0	0	1	10	2	13.5
Drug Stores	1	5	2	54	2	36	5	95
Banks	0	0	2	7.33	1	10	3	17.33
Dress Shops	0	0	5	68.5	2	14	7	82.5
Exhibits and Displays	0	0	6	76.5	0	0	6	76.5
Grocery Stores	0	0	1	4	0	0	1	4
Hotel Dining & Cocktail Rooms	0	0	2	218	6	73	8	291
Industrial	2	31	8	224.5	4	42.5	14	298
Shoe Stores	0	0	2	20	1	37	3	57
Wine & Liquor Stores	0	0	1	15	0	0	1	15
Haberdasheries	1	15	0	0	0	0	1	15
Candy Mfg.	0	0	0	0	1	18	1	18
Jewelry Stores	0	0	0	0	1	3.25	1	3.25
Opticians	0	0	0	0	1	2	1	2
Total	68	2,948.75	92	2,182.83	45	1,536	205	6,567.58

### Dallas, Texas

Classification	Prior to 1935		During 1935		8 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Residences .....	26	50.05	19	67.62	41	59.30	86	176.97
Offices .....	16	135.70	17	105.40	22	180.61	55	421.71
Office Buildings (complete)....	1	33	2	551.35	0	0	3	584.35
Banks .....	2	482.50	0	0	2	160.66	4	643.16
Beauty Parlors .....	0	0	0	0	1	15.87	1	15.87
Brokers Board Rooms .....	1	33.83	0	0	0	0	1	33.83
Drug Stores .....	0	0	0	0	5	105.98	5	105.98
Hospitals .....	0	0	1*	.66	1	3.10	2	3.76
Hotels (including dining rooms, etc.) .....	1	496	2	149.50	4	176.11	7	821.61
Miscellaneous .....	2	3.70	1	11.75	4	48.03	7	63.48
Restaurants .....	4	90	3	32.75	6	48.99	13	171.74
Retail Stores .....	9	970.63	5	75.65	6	326.85	20	1,373.13
Sales & Display Rooms .....	5	261.67	5	65.69	0	0	10	327.36
Theaters .....	3	760.25	1	107.50	0	0	4	867.75
Undertakers .....	1	10	1	18	1	24	3	52
Texas Centennial .....	0	0	0	0	36	2,148	36	2,148
<b>Total .....</b>	<b>71</b>	<b>3,327.33</b>	<b>57</b>	<b>1,185.28</b>	<b>129</b>	<b>3,297.50</b>	<b>257</b>	<b>7,810.11</b>



## Indianapolis &amp; Marion County

Classification	Prior to 1935 No. Hp.	During 1935 No. Hp.	6 Months, 1936 No. Hp.	Total No. Hp.
Banks	1	45.25	1	45.25
Beauty Shops	1	5.25	1	5.25
Churches	1	15	1	15
Clubs	1	11.5	1	11.5
Doctors and Dentists	1	4	1	4.5
Hospitals	1	3.5	1	18
Industrial Applications:				
Candy	1	10	1	10
Dairy	2	25	2	25
Miscellaneous	1	400	1	5.5
Laboratories	1	5.75	1	5.75
General Offices & Buildings	3	30	1	18
Private Offices	3	6.75	7	8.5
Residences	9	20.5	12	32
Restaurants and Bars	9	213	9	122
Stores (Clothing, Department)	1	603	5	1,053.5
Stores (Confectionery)	1	20	1	5
Stores (Fur)	1	4.5	1	4.5
Stores (Jewelry)	1	3	1	10.5
Stores (Shoe)	1	1	1	5.75
Studios	1	2	1	2
Theaters (Electric Refrig.)	2	550	1	60
Theaters (Washed Air)	5	257.75	1	40
Undertakers	1	6.5	1	5.25
Libraries	1	15.25	1	15.25
<b>Totals</b>	<b>38</b>	<b>2,125</b>	<b>45</b>	<b>1,445</b>

## Rochester, N. Y.

Classification	Prior to 1935 No. Hp.	During 1935 No. Hp.	6 Months, 1936 No. Hp.	Total No. Hp.
Industrial—Plants	11	22,159	2*	126
Industrial—Offices	0	0	2	68
Office Buildings	1	188	0	0
Offices	4	5	2	2.5
Theaters	4	1,274	0	0
Restaurants	5	148	3*	39.5
Hotels	1	23	2	56
Stores	3	239	4	186.25
Radio Studio	1	4	0	0
Library	1	265	0	0
Banks	1	11	2	26.25
Funeral Parlors	0	0	0	0
Newspaper	0	0	1	112.75
Telephone Exchanges	0	0	2	32.75
Residences	3	3	8	18.25
<b>Total</b>	<b>35</b>	<b>24,319</b>	<b>28</b>	<b>668.25</b>

\*One or more of these being in addition to a previous installation.

## Birmingham, Ala.

Classification	Prior to 1935 No. Hp.	During 1935 No. Hp.	6 Months, 1936 No. Hp.	Total No. Hp.
Offices	8	17	5	36
Residences	5	38	3	4.6
Restaurants & Drug Stores	3	47	3	118
Stores	4	159	7	765
Theaters	3	582	1	13
Automobile Show Rooms	0	0	1	13
Automobile Service Station	0	0	1	1
Radio Studios	0	0	1	1
Hotel Guest Rooms	0	0	0	0
Industrial	1	2.5	0	0
<b>Total</b>	<b>24</b>	<b>845.5</b>	<b>22</b>	<b>951.6</b>

## Sioux City, Ia.

Classification	Prior to 1935 No. Hp.	During 1935 No. Hp.	8 Months, 1936 No. Hp.	Total No. Hp.
Offices	4	29	8	53.25
Restaurants, Bars, Night Clubs	5	48	1	19
Theaters	2	425	1	19
Stores	3	29	2	17.5
Residences	1	2.5	3	6
Barber Shops & Beauty Parlors	1	1	7	8.25
Miscellaneous	1	1	3	7.5
<b>Total</b>	<b>15</b>	<b>533.5</b>	<b>13</b>	<b>76.75</b>

## Potomac Edison Co., Hagerstown, Md., Area

Classification	Prior to 1935 No. Hp.	During 1935 No. Hp.	6 Months, 1936 No. Hp.	Total No. Hp.
Apartments	2	2	0	0
Banks	1	.5	1	.5
Candy & Confectionery Stores	1	1.5	0	0
Clubs	0	0	1	6.5
Offices	6	13.25	7	15
(Doctors, Dentists, etc.)	6	13.25	7	15
Fur Storage	0	0	1	1.5
Jewelry Stores	0	0	0	0
Laboratories	0	0	1	.75
Radio Stations	1	1	1	.5
Residences	1	1	0	0
Restaurants	1	6	1	6
Dept. Stores	0	0	1	9
Tap Rooms & Grills	1	6	1	3
Theaters	1	20	1	10
Funeral Parlors	0	0	0	0
<b>Total</b>	<b>15</b>	<b>51.25</b>	<b>16</b>	<b>52.75</b>

## Hartford, Conn.

Classification	Prior to 1935 No. Hp.	During 1935 No. Hp.	6 Months, 1936 No. Hp.	Total No. Hp.
Beauty Parlors	0	0	1	7
Candy Manufacturers	1	2	0	0
Cocktail Rooms	0	0	1	16.5
Department Stores	1	389.5	1	9
Furriers	1	34.5	0	0
Hospitals	0	0	2	8
Industrials	3	135	0	0
Office Buildings	1	80	1	90
Private Offices	2	2.5	3	7.5
Residences	1	2	1	1
Restaurants	2	16.5	3	37
Retail Stores	0	0	1	15
Theaters	1	167.5	0	0
Undertakers	0	0	0	0
<b>Total</b>	<b>14</b>	<b>830.5</b>	<b>14</b>	<b>191</b>

## Charleston, S. C.

Classification	Prior to 1935 No. Hp.	During 1935 No. Hp.	6 Months, 1936 No. Hp.	Total No. Hp.
Hotels	1	10	0	0
Retail Stores	1	160.5	0	0
Restaurants	0	0	1	13
<b>Total</b>	<b>2</b>	<b>170.5</b>	<b>1</b>	<b>13</b>

## Frick Air Conditions Large Storage Room For Walnut Growers

VERNON, Calif.—What is believed to be the largest air-conditioned storage room in existence, capable of holding 17,000,000 lbs. of walnuts, has been built by California Walnut Growers' Association, using Frick refrigerating equipment.

Located in this city, a suburb of Los Angeles, the plant building is 700 ft. long, 400 ft. wide, and some 30 ft. high. Double railroad tracks extend down the center of the building, roughly one-half of which is devoted to dry storage and the other half to refrigerated storage. The refrigerated storage room itself is approximately 600 ft. by 175 feet, and 22 ft. high.

Temperature maintained in this room averages between 36 and 40° F., with a relative humidity close to 65%. Between the months of April and November, refrigeration is required for keeping the walnuts in first class condition until sold.

Floor of the storage room is of concrete, but is otherwise not insulated. The outside walls have 6 in. of granulated cork insulation; a demountable panel wall on one side has 4 in. of shredded redwood bark insulation. Ceiling is insulated with the same material.

The demountable wall is built in sections about 10 ft. wide, and may be removed to provide extra dry storage room in cold weather.

One of the unusual parts of the refrigerating system is the method of conditioning the air, developed by the consulting engineer, Paul A. Scherer.

Return air on its way to the suction fans passes through 6,000 yards of unbleached muslin folds, installed in redwood frames. Cold brine is distributed over the surface of the muslin from supply headers which are hung above the frames.

The two fans, of American Blower manufacture, each have capacities of 75,000 c.f.m. of air.

The conditioning department is separately insulated from the main refrigerated room, and is approximately 22 ft. wide, and 150 ft. long, arranged in two floors.

Conditioned air is distributed to the room through galvanized iron ducts, and returned through ducts along the outside walls. The cold air supply ducts are perforated for proper distribution.

Brine is cooled in a multipass shell-and-tube cooler, 42 in. in diameter and 15 ft. long, equipped with an accumulator and ammonia float valve control. It is delivered to the air-conditioning chamber by two Fairbanks-Morse centrifugal pumps, each of 450 g.p.m. capacity.

Refrigeration is supplied by two 9 by 9-in. Frick ammonia compressors of the enclosed type, driven through V-belts by two Fairbanks-Morse motors. Either machine is capable of maintaining the temperature after the nuts are cooled, but both are required for lowering the temperature quickly after new shipments are put in storage. There are four horizontal shell-and-tube condensers, mounted above the ammonia receiver, which is equipped with a purger.

Because of the immense size of the storage and the air-conditioning requirements, there was some doubt as to whether a successful system could be installed. After several months of operation, however, the system is said to be performing to the association's entire satisfaction.

English walnut culture has grown steadily in California since its introduction in 1870, until 140,689 acres are now devoted to it. The state produces 97% of all the soft shelled walnuts grown in the United States. Present normal production is between 60 and 70 million pounds annually.

California Walnut Growers' Association, organized in 1912, now has nearly 8,000 members, and comprises 40 local walnut-packing associations.

Walnuts today are grown expertly, with oil burners fighting orchard frosts; special soil, water, and irrigation procedure; pruning, grafting, spraying, and other protective practices.

After harvesting, the nuts are hulled and dried, either in the sun or in special dehydrators. Upon arrival at the packing house, they are tested, then passed through a vacuum machine which lifts out those with immature or shriveled kernels. Those with visible defects are next culled.

The nuts are then dropped into a revolving drum, sprayed with a cleaning solution, and passed through a drainer into a second drum for rinsing. A second sorting is then made, after which the sound walnuts enter a rotary grader, to be conveyed to ventilated drying bins. After a third sorting the nuts go into storage bins, then through branding machines, and finally are packed.

Shelled walnuts are packed in two Los Angeles plants, 1,300 employees doing the work. This operation is done with automatic machines.

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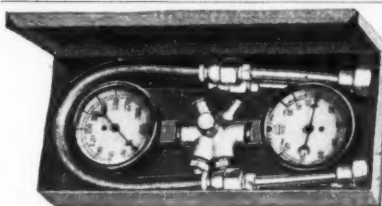
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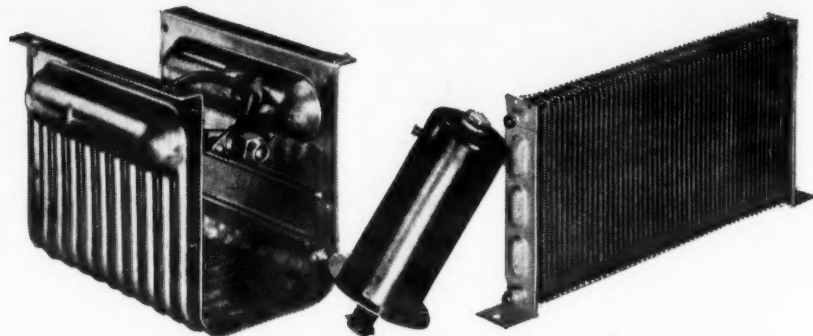
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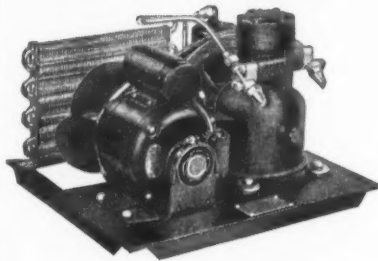
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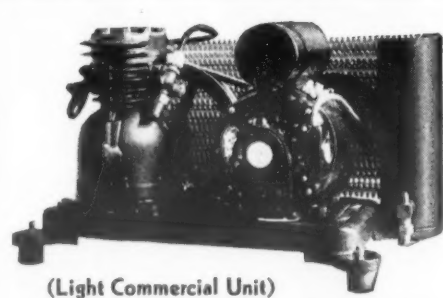
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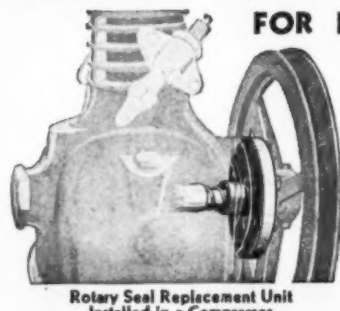
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## Summary of Air Conditioning Installations by Cities (Concluded)

### El Paso, Texas

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Funeral Parlors	1	13	1	7.5	0	0	2	20.5
Theaters	4	290	1	17.5	1	15	6	322.5
Hotels	1	15	1	77	0	0	2	92
Department Stores	1	20	0	0	1	10	2	30
Offices	0	0	2	4	2	21.5	4	25.5
Bowling Alleys	1	30	0	0	0	0	1	30
Shoe Stores	0	0	0	0	1	7.5	1	7.5
Utilities	1	23	0	0	0	0	1	23
Groceries	0	0	1	3	2	10	3	13
Residences	0	0	4	6	2	4	6	10
Night Clubs	0	0	1	15	0	0	1	15
Telephone Companies	1	15	1	35	0	0	2	50
Finance Companies	0	0	1	5	0	0	1	5
Drug Stores	0	0	0	0	3	44	3	44
Hospitals	0	0	0	0	1	20	1	20
<b>Total</b>	<b>10</b>	<b>406</b>	<b>13</b>	<b>170</b>	<b>13</b>	<b>132</b>	<b>36</b>	<b>708</b>

### Gulf States Utility Co. (Beaumont, Texas) Territory

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Residence	1	32.5	0	0	1	38	2	70.5
Restaurant	2	83.5	1	8	3	48	6	139.5
Office	1	8	0	0	0	0	1	8
Theater	1	175	1	76	2	193	4	444
Dry Cleaner	1	8	0	0	0	0	1	8
Retail Store	1	8	0	0	0	0	1	8
Air Conditioning Dealer	0	0	1	14	0	0	1	14
Department Store	0	0	1	29	0	0	1	29
Federal Courtroom	0	0	1	12	0	0	1	12
Offices & Sales Room	0	0	2	98	0	0	2	98
Barber Shop	0	0	1	5	0	0	1	5
Bank	0	0	0	0	1	45	1	45
County Court House	0	0	0	0	1	118	1	118
City Auditorium	0	0	0	0	1	263	1	263
<b>Total</b>	<b>7</b>	<b>315</b>	<b>8</b>	<b>242</b>	<b>9</b>	<b>705</b>	<b>24</b>	<b>1,262</b>

### Springfield, Mass., Territory

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Cocktail Rooms	2	17	0	0	2	20	4	37
Shoe Stores	1	5	0	0	0	0	1	5
Theaters	1	235	0	0	0	0	1	235
Candy Stores	1	20	1	9.5	0	0	2	29.5
Funeral Parlors	1	5	1	9	0	0	2	14
Residences	1	5	1	1.5	2	2	4	8.5
Hotels	1	7.5	1	20	0	0	2	27.5
Restaurants	0	0	3	32	3	32	6	64
Offices	0	0	6	191	4	17	10	208
Printing Shops	0	0	1	9	0	0	1	9
Millinery Shops	0	0	1	2	0	0	1	2
Industrial	0	0	0	0	1	23	1	23
Dept. Stores	0	0	0	0	2	5.5	2	5.5
Fur Store	0	0	0	0	1	2	1	2
<b>Total</b>	<b>8</b>	<b>294.5</b>	<b>15</b>	<b>274</b>	<b>15</b>	<b>101.5</b>	<b>38</b>	<b>670</b>

### Kansas Electric Power Co. Properties

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Theaters	2	110	1	10	0	0	3	120
Hospitals	0	0	0	0	2	1.5	2	1.5
Offices	1	1	1	20	2	2.25	4	23.25
Restaurants	2	15	1	10	1	7.5	4	32.25
Stores	0	0	0	0	1	7.5	1	7.5
Beauty Shops	0	0	0	0	2	10	2	10
Funeral Parlors	1	5	1	10	0	0	2	15
Doctors' Offices	2	3.75	0	0	0	0	2	3.75
Institutions	0	0	1	100	1	1.5	2	101.5
Residences	2	8	3	5.25	3	3.75	8	17
<b>Total</b>	<b>10</b>	<b>142.75</b>	<b>8</b>	<b>155.25</b>	<b>12</b>	<b>33</b>	<b>30</b>	<b>331</b>

### Northern Indiana Public Service Co. Territory

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Offices	1	8	1	20	2	25.5	4	53.5
Residences	0	0	0	0	1	3.33	1	3.33
Restaurants	0	0	1	42.5	0	0	1	42.5
Theaters	2	270	0	0	0	0	2	270
<b>Total</b>	<b>3</b>	<b>278</b>	<b>2</b>	<b>62.5</b>	<b>3</b>	<b>28.83</b>	<b>8</b>	<b>369.33</b>

### Manchester, New Hampshire

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Theaters	1	14.75	1	21.75	1	23	3	59.50
Restaurants	1	9	2	23.50	1	9	4	41.50
Stores	1	1.25	2	10	0	0	3	11.25
Doctors' offices	0	0	0	0	1	.75	1	.75
Residences	3	.75	4	1	8	2	15	3.75
Miscellaneous	1	4	2	.75	3	7	6	11.75
<b>Total</b>	<b>7</b>	<b>29.75</b>	<b>11</b>	<b>57.00</b>	<b>14</b>	<b>41.75</b>	<b>32</b>	<b>128.50</b>

### Reno, Nevada

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Banks	..	..	..	..	1	15	1	15
Cigar Stores	1	3	..	..	..	..	1	3
Clubs	..	..	1	35	1	5	2	40
Restaurants	..	..	1	5	2	8	3	13
Theaters	2	110	..	..	..	..	2	110
<b>Total</b>	<b>3</b>	<b>113</b>	<b>2</b>	<b>40</b>	<b>4</b>	<b>28</b>	<b>9</b>	<b>181</b>

### St. Joseph, Mo.

Classification	Prior to 1935		During 1935		6 Months, 1936		Total	
	No.	Hp.	No.	Hp.	No.	Hp.	No.	Hp.
Hotels	1	10	1	25	..	..	2	12.5
Industrial	1	40	..	..	1	15	2	55
Theaters	2	140	..	..	..	..	2	140
Stores	..	..	4	17.5	7	96	11	113.5
Funeral Parlors	..	..	2	20	..	..	2	20
Beauty Parlors	..	..	1	3	..	..	1	3
Residences	..	..	5	4.75	5	8	10	12.75
Banks	..	..	..	..	1	1	1	1
<b>Total</b>	<b>4</b>	<b>190</b>	<b>13</b>	<b>70.25</b>	<b>14</b>	<b>120</b>	<b>31</b>	<b>380.25</b>

### Portland, Oregon

	During 1935	
	No.	Hp.
Banks	2	.8
Doctors' & Dentists' Offices	3	2.3
Offices	1	.7
Studios, Broadcasting	1	7.7
Restaurants	24	34.9
Stores, Retail	6	2.9
Theaters	2	16.0
Churches	1	.1
Dairy Products	2	18.5
Miscellaneous Industrial	2	1.9
<b>Total</b>	<b>44</b>	<b>85.8</b>

### Southwestern Public Service Amarillo, Texas

Air-conditioning sales in this territory are somewhat slow, because of the high, dry climate, according to T. W. Gilstrap, commercial manager. The temperature falls to around 70° F. shortly after sundown in summer and nights are always cool, he says.

Extent of installations in the territory are about as follows: in 1934, a 1½-ton residential job was installed by Frigidaire; in 1935, Kelvinator installed an 18-ton job in the utility company's office, and another, of equal size, in that of the gas utility company.

Two installations are reported for this year, both by Carrier, the first being a 2-ton residential system, the other a 15-ton job in a local drug store.

### Public Service Co. of Colorado, Denver

Records kept by the company on air-conditioning installations in Denver are incomplete, reports J. M. Eakins, manager of the refrigeration division.

The utility has no record of installations made prior to 1935. During 1935, two installations are recorded: one, totaling 25 hp., in a night club, and another, in a jewelry store, amounting to 15 hp.

Only installation recorded by the company this year is a 10-hp. job in the nurses' home of St. Joseph's hospital, Denver.

The company plans to enter into air conditioning on a much wider scale next year, Mr. Eakin says. Considerable experimenting has been done with a portable air-cooled room cooler. The utility's gas department has installed about 34 washed air residential installations, and about 10 commercial jobs.

### Pacific Coast Electric Co. San Francisco

Sixty-five installations of air-conditioning equipment were made in the territory of Pacific Gas & Electric Co. during the first six months of 1936, according to R. E. Fisher, vice president in charge of sales.

The company makes no tabulation of installations other than to distinguish between domestic and commercial applications. Fourteen domestic installations, totaling 11 hp., and 51 commercial installations, totaling 518 hp., were made during the first six months of the year.

Prior to Jan. 1, 1936, 808 installations totaling 5,564 hp., had been in service on the company's lines. The half-year total brings the number of installations to 873, with a connected load of 6,093 hp.

### Wisconsin Gas & Electric Racine, Wis.

Only one air-conditioning system has been installed in Racine during the first six months of this year, according to reports compiled by R. P. Guilbert of the utility company's refrigeration department. A total of five installations are in operation in the city at present.

Year-by-year statistics are as follows:

1934: S. C. Johnson & Son office, 1½ ton, 1½ hp.

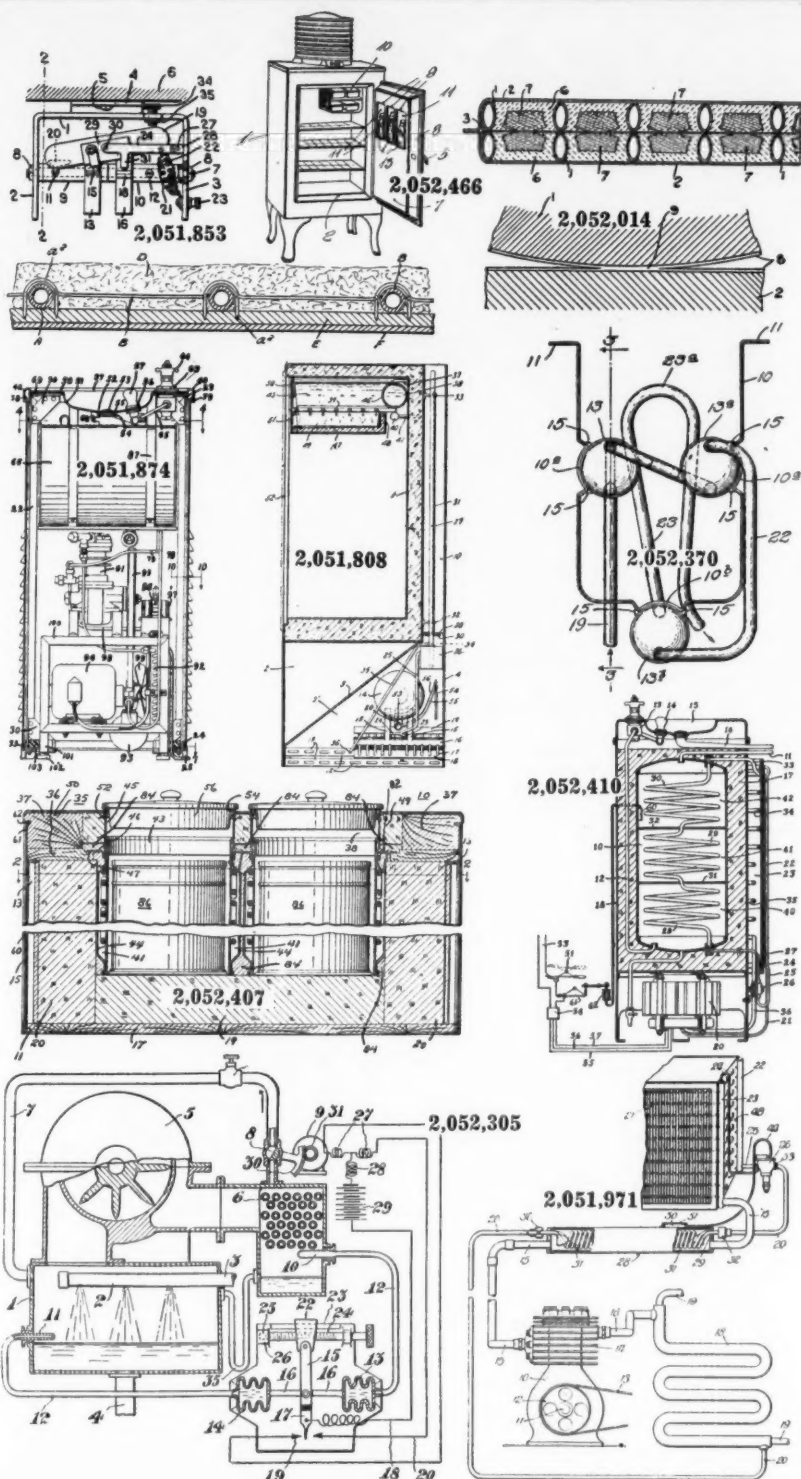
1935: Andes Candy Store, 1½ ton, 1½ hp. A. J. Smith residence, 1½ ton, 1½ hp. H. F. Johnson, Jr., residence, 3 ton, 3½ hp.

1936: Ed Evans' Tavern, 5 ton, 5 hp.

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## Patents

Issued August 25, 1936

2,051,808. ABSORPTION CYCLE REFRIGERATING APPARATUS. Edmund E. Allyn, Cleveland, Ohio, assignor to Allyn Laboratories, Inc., Cleveland, Ohio. Original application February 7, 1929, Serial No. 338,174, now Patent No. 1,978,662. Divided and this application April 7, 1933, Serial No. 665,029. 4 Claims. (Cl. 62-118)

2,051,853. THERMOSTATICALLY CONTROLLED SWITCH. Willis K. Hodgman, Jr., Taunton, Mass. Application November 30, 1934, Serial No. 755,279. 8 Claims. (Cl. 200-138)

2,051,874. REFRIGERATING APPARATUS. John A. Macready and De Witt H. Wyatt, Dayton, Ohio, assignors, by mesne assignments, to General Motors Corporation. Application September 29, 1928, Serial No. 309,216. Renewed April 19, 1935. 6 Claims. (Cl. 312-141)

2,051,971. REFRIGERATING APPARATUS. Richard H. Swart, Beloit, Wis., assignor to General Refrigeration Corporation, Beloit, Wis. Application March 30, 1935, Serial No. 13,871. 7 Claims. (Cl. 62-8)

2,052,014. HEAT TRANSFER METHOD AND APPARATUS. Clark W. Chamberlain, Lansing, Mich., assignor to Kold-Hold Manufacturing Company, Lansing, Mich. Application August 17, 1935, Serial No. 36,680. 17 Claims. (Cl. 251-1)

2,052,305. CONTROLLING APPARATUS FOR REFRIGERATING SYSTEMS. Alfred D. Karr, Newark, N. J., assignor to Ingersoll-Rand Company, Jersey City, N. J. Application December 12, 1934, Serial No. 757,093. 21 Claims. (Cl. 62-152)

2,052,359. HEATING AND COOLING OF BUILDINGS. Joseph Leslie Musgrave, London, England. Application June 26, 1935, Serial No. 28,577. In Great Britain June 13, 1934. 1 Claim. (Cl. 257-8) (Sketch excluded)

2,052,370. EVAPORATOR. Jens Touborg, Greenville, Mich., assignor to Gibson Electric Refrigerator Corporation, Greenville, Mich. Application July 25, 1935, Serial No. 33,153. 4 Claims. (Cl. 62-126)

2,052,407. REFRIGERATING APPARATUS. Jessie G. King, Dayton, Ohio, assignor, by mesne assignments, to General Motors Corporation. Application December 2, 1931, Serial No. 578,531. 8 Claims. (Cl. 62-95)

2,052,410. REFRIGERATION. Andrew A.

Kucher, Dayton, Ohio, assignor, by mesne assignments, to General Motors Corporation. Application December 23, 1932, Serial No. 648,694. 4 Claims. (Cl. 62-141)

2,052,466. REFRIGERATOR DOOR CONSTRUCTION. Arthur C. Heise and Millard W. Jacobi, Baltimore, Md. Application April 20, 1934, Serial No. 721,628. 6 Claims. (Cl. 62-89)

### PATENTS

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### POSITIONS WANTED

REFRIGERATOR Manufacturing executive or engineer available. Broad experience in domestic cabinets of all steel, one piece construction in Dulux or vitreous finish and compressors of hermetic or conventional type. Have background and experience to produce high-grade articles at competitive costs. Now employed by a manufacturer of high-grade refrigerator. Go anywhere. Box 847, Electric Refrigeration News.

### EQUIPMENT FOR SALE

RECONDITIONED Refrigerators for sale. Kelvinators \$29.00, Fridaires \$39.00, Copelands \$39.00, Crosleys \$59.00, General Electric \$69.00, Electrolux \$59.00. Also "AS IS" refrigerators from \$15.00 up. Refrigerators for restaurants, 8 to 18 foot, displayed at our showroom, 160 West 34th Street, New York City. PILGRIM REFRIGERATION CO., 43-47 39th Place, Long Island City, N. Y.

### REPAIR SERVICE

HALELECTRIC LABORATORY is America's pioneer repair house for temperature and pressure controls. Our service, price and precision workmanship are unequalled. Ask your dealer about Warrenol for stuck-up jobs. Send us his name and we will send you a generous sample. HALELECTRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

MAJESTIC UNITS; any model, rebuilt or exchanged \$20.00 f.o.b. Chicago. Guarantee six months. All models in stock for prompt exchange. Wholesale only. REFRIGERATION PRODUCTS, INC., 122 W. Illinois St., Chicago, Ill.

GENERAL ELECTRIC and Majestic hermetically sealed units repaired and exchanged. Guaranteed work. Wholesale only. Give model when writing. All prices quoted f.o.b. Chicago. AMERICAN REFRIGERATING ENGINEERS, INC., 2257 Silvertown Drive, Chicago, Illinois.

SAVE MONEY on electric motor repairs. We rebuild and rewind thousands of motors yearly for largest refrigeration firms in the East and can save you money on your motor problems. Write for our price schedule for rewinding or rebuilding motors for refrigeration, oil burners, washing machines, motor stokers, and air condition motors. Out of town motors are picked up and delivered by our motor transportation service. Write for our dealers' price list. P. J. QUINN'S SONS, INC., 166 Vernon Ave., Long Island City, N. Y.

REFRIGERATION CONTROLS, domestic types, repaired. 48 hours. Ranco pencil types \$1.75, all box types, \$2.00. Majestic \$2.50. UNITED GAUGE AND INSTRUMENT COMPANY, 436 West 57th Street, New York City.

MAJESTIC & GENERAL ELECTRIC units repaired. Our standard job on these units is \$20.00, giving you a six months' guarantee. We also have our \$30.00 deluxe job, giving you a two-year written guarantee. Please advise which job you want when sending your units. PENO SERVICE COMPANY, Ft. Smith, Arkansas.

**TEMPRITE**  
INSTANTANEOUS  
BEER and WATER COOLERS  
Detroit Michigan

## The Buyer's Guide

Suppliers Specializing in Service to the Refrigeration and Air Conditioning Industries

DISTRIBUTORS and SALES AGENTS... **WANTED**

for **KOCH COMMERCIAL REFRIGERATOR CABINETS**

Some very good territories still available

Complete Market Equipment by **KOCH**

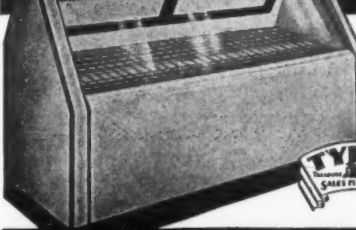
KOCH Display Cases Have 4-in. Corkboard Insulation, Triple Plate Glass, and Are Porcelain Clad

Write for full information, stating qualifications

**KOCH REFRIGERATORS**

North Kansas City, Mo.

## TYLER'S NEW WELDED STEEL REFRIGERATOR CASES



At last a general purpose case at a sensible price. Offers every advantage of the most costly cases at tremendous savings. Modern in every detail. Comes equipped with coils. Single and double duty models.

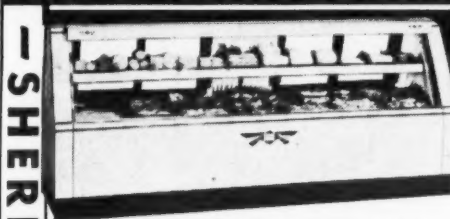
**AN AMAZING VALUE**

Hundreds in use. Perfect refrigeration for meat, dairy and delicatessen products and all perishables sold in food stores. Write or wire for all the facts.

TYLER Sales-Fixture CO., Dept. E, Niles, Mich.

3 INCH INSULATION-TRIPLE GLASS

## SALES AGENTS & DISTRIBUTORS WANTED



Desirable territories now open. Write us for details.

**SHERER-GILLETT COMPANY**  
MARSHALL, MICHIGAN  
ESTABLISHED 1852

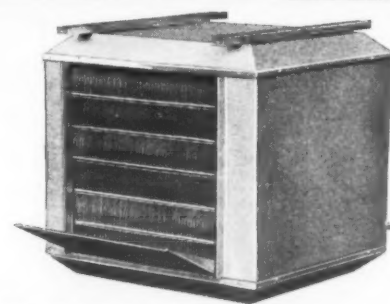
We manufacture a complete line of **DISPLAY AND STORAGE EQUIPMENT FOR RETAIL FOOD STORES**

Refrigerator Cases of all kinds, Market Coolers, Reach-in Boxes, Meat Racks, Porcelain Partitions, etc.

Use the complete Sherer line to maintain your volume and profits as the demand for household boxes tapers off. Write us today.

## UNIT COOLERS

CONTROLLED HUMIDITY  
WRITE FOR LITERATURE



JACKSON **ACME INDUSTRIES, Inc.** MICHIGAN

LEADING MAKERS OF REFRIGERATING AND AIR CONDITIONING EQUIPMENT STANDARDIZE ON

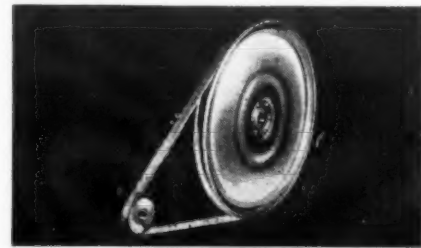
**Dayton V-BELTS**

Because of their outstanding advantages Dayton V-Belts have been used as original equipment on leading makes of air conditioning equipment, electric refrigerators, washing machines and other appliances for many years.

Dayton V-Belts are the logical choice because they provide silent, dependable transmission—because their powerful grip prevents slippage—because they run smoothly without weaving, twisting or vibrating.

A nearby distributor carries a complete stock of Dayton V-Belts at all

**THE DAYTON RUBBER MANUFACTURING CO. • DAYTON, OHIO**  
World's Largest Manufacturer of V-Belts



Whether for Fractional or a Thousand H.P. there is a Dayton V-Belt Drive for the job.

times and can quickly supply you. Write us for price list and complete information.